

**BARRIERS TO UTILIZATION OF ANTENATAL CARE SERVICES AMONG  
PREGNANT WOMEN IN OMAHEKE REGION – NAMIBIA**

by

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submitted in accordance with the requirements

for the degree of

**MASTER OF PUBLIC HEALTH**

at the

**UNIVERSITY OF SOUTH AFRICA**

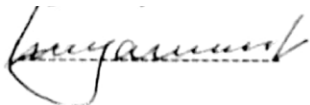
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November 2017

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### DECLARATION

I declare that **BARRIERS TO UTILIZATION OF ANTENATAL CARE SERVICES AMONG PREGNANT WOMEN IN OMAHEKE REGION – NAMIBIA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.



.....

**SIGNATURE**

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.....

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# **BARRIERS TO UTILIZATION OF ANTENATAL CARE SERVICES AMONG PREGNANT WOMEN IN OMAHEKE REGION – NAMIBIA**

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## **ABSTRACT**

The purpose of the study is to determine the barriers to utilisation of antenatal care services among pregnant women in Omaheke Region - Namibia.

A quantitative, cross-sectional descriptive research was followed, and a structured questionnaire was used to obtain information from study participants. One hundred and ten (110) women of child-bearing age between 18 to 49 years who visited Gobabis District Hospital in Omaheke Region for deliveries (full-term) or kept for postnatal care purposes were selected. A questionnaire with open-ended and closed-ended questions was designed using a Likert scale to gather information. SPSS software was used to generate descriptive statistics.

Results indicated that the majority of respondents (39%) who attended antenatal care services, fell within the age range of 18-21 years. Participants demonstrated higher knowledge of the recommended number of antenatal care visits and of the importance of antenatal care services. Transport money and cost, long distances to health facilities, desirability, unplanned or unwanted pregnancy, and limited transportation options are the barriers that contribute to low utilisation of antenatal care services among pregnant women in Omaheke Region.

Recommendations for deployment of more qualified midwives at rural antenatal clinics, building more antenatal care clinics in the region and creation of community awareness campaigns on the importance of antenatal care may increase the utilisation of antenatal care services in the Region. It is anticipated that this research will contribute to the promotion and utilisation of antenatal care services among pregnant women in Omaheke Region.

## **KEYWORDS**

Antenatal care; antenatal care utilisation; barrier; postnatal care mother; postnatal care; pregnant woman.

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## *Dedication*

*This study is dedicated to my late father and late mother who always encouraged me to work very hard when it came to studying.*

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## LIST OF ABBREVIATIONS

ANC	Antenatal Care
AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti-Retroviral Therapy
CPD	Cephalopelvic Disproportion
DCC	District Coordinating Committee
DMIS	District Management Information System
HIV	Human Immunodeficiency Syndrome
HPV	Human Papilloma-virus
IPT	Intermittent Preventive Treatment
IEC	Information, Education and Communication
IUCD	Intrauterine Contraceptive Device
ITNs	Insecticide-Treated Nets
MDG	Millennium Development Goal
MPNDR	Maternal Peri-Neonatal Deaths Reviews
MMR	Maternal Mortality Rate
MoHSS	Ministry of Health and Social Services
MNH	Maternal and Newborn Health Care
NDHS	Namibia Demographic and Health Survey
NPC	National Population Census
PMTCT	Prevention of Mother-to-Child Transmission
SPSS	Statistical Package for Social Sciences
SDGs	Sustainable Development Goals
TB	Tuberculosis
TBAs	Traditional Birth Attendants
UN	United Nations
WHO	World Health Organization

# **CHAPTER 1**

## **ORIENTATION TO THE STUDY**

### **1.1 INTRODUCTION**

The World Health Organization (WHO), refers to prenatal care or antenatal care as a type of preventive health care, with the goal of providing regular check-ups that allow doctors or midwives to treat and prevent potential health problems throughout the course of the pregnancy, while promoting healthy lifestyle that benefits both mother and child (Lincetto, Mothebesoane-anoh, Gomez & Munjanja 2013:52).

A birth attendant, who is referred to as a professionally trained health worker, having the essential midwifery skills to manage normal labour and delivery, recognise complications early and perform any essential interventions including early referral (Tadese & Ali 2014:4). The researcher intends to explore the barriers to utilisation of antenatal care among pregnant women.

Chapter 1 focuses on the general orientation of the study, which includes background information about the research problem, research problem, aim of the study, significance of the study, definitions of the key concepts, research design and method.

### **1.2 BACKGROUND INFORMATION ABOUT THE RESEARCH PROBLEM**

Maternal deaths associated with pregnancy and childbirth are a problem especially in developing countries. A study conducted in India indicated that Safe Motherhood Initiatives is one of a worldwide effort launched by the WHO in 1987, which aimed to reduce the number of deaths associated with pregnancy and childbirth. Appropriate antenatal care is one of the pillars of this initiative. It highlights the appropriate care of antenatal mothers as an important element in maternal health care, which may lead to successful pregnancy outcome and healthy babies (Patel, Mehta, Unadkat & Yadav 2017:2).

The WHO (2016:106) recommended that a woman without complications has at least four comprehensive antenatal care visits in order to promote the health of the mother and foetus, assess high risks among pregnant women and give early detection of complications during pregnancy. WHO further recommended that the first prenatal visit should be started within the initial 12 weeks of the pregnancy, second visit between weeks 12 and 18, followed by visits every four weeks until week 28, and then every 1-2 weeks thereafter, the woman should visit the clinic from 38-40 weeks. According to the WHO (2015:12), the proportion of women receiving antenatal care at least once during pregnancy worldwide was 83% for the period 2007-2014. However, only 64% of pregnant women received the recommended minimum of four antenatal care visits or more, suggesting that large expansions in antenatal care coverage is still needed.

According to WHO Millennium Development Goal (MDG 5) report on improving maternal health, majority of rural pregnant women in African countries with lower wealth quintile who are uneducated, attend antenatal care visits for at least less than four times during pregnancy. When comparing rural pregnant women to urban pregnant women in European countries with a higher wealth quintile and those who are educated, urban pregnant women in European countries were attending at least four antenatal care visits during their pregnancy (WHO 2015:145).

Namibia Demographic and Health Survey (NDHS) defines antenatal care as the care that is provided by trained skilled providers to screen for infections, treat malaria, reduce the incidence of perinatal illness and death. Furthermore, ante natal care provide birth preparedness, identify signs of danger in pregnancy, and plan to handle possible delivery complications through timely treatment and referrals (Namibia Ministry of Health and Social Services (MoHSS) and ICF International 2014). It also reduces medical problems in pregnancy such as anaemia, hypertension, ectopic pregnancy, obstructed labour, eclampsia, excessive bleeding and premature labour and delivery. Pregnant women can also be provided with micronutrient supplementation, immunisation against tetanus, HIV testing and medications to prevent mother to child transmission of HIV in cases of HIV-positive pregnant women.

NDHS which was conducted in 13 Regions of Namibia, states that overall antenatal care coverage by skilled provider is relatively lower in Omaheke Region (89%) and Otjozondjupa Region (92%) than in other regions which was 95% and higher. Barriers



to utilisation of antenatal care services that were reported were long distance to health facilities, lack of funds, lack of transport and unavailability of traditional birth attendants in communities (NDHS 2013:100). The NDHS (2013:101) indicates that the Government of Namibia adopted the recommendation of WHO of at least four comprehensive antenatal care visits for a woman without complications. It is recommended that the pregnant woman start the first visit at less than 16 weeks, the second between 20 and 24 weeks, the third between weeks 28 and 32, and the fourth at 36 weeks.

A drop in number of antenatal care visits is a serious threat to maternal and neonatal health among pregnant women in Omaheke Region. According to Dr N Hamata, who is a special advisor to the Minister of Health in Namibia, pregnant women who did not attend antenatal care clinic or those who attended antenatal clinic in their third trimester of pregnancy are more likely to face maternal deaths or complications during delivery or after delivery. They may have babies with health problems, as indicated on the Maternal and Peri-neonatal Deaths Review (MPNDR) Report of 2014 for Omaheke Health Directorate, Ministry of Health and Social Services (Hamata 2014:16). Maternal mortality in Namibia is among the highest in the world and has been associated with poor safe motherhood services implementation and utilisation.

Maternal mortality ratio (MMR) was 385 deaths per 100,000 live births during the 10 - year period preceding the survey. Which means for every 1,000 live births in Namibia during the 10 years preceding the 2013 NDHS, about four women died during pregnancy, during childbirth or within two months of childbirth (NDHS 2013). These figures are a clear indication that Namibia is far from achieving the vision of a healthier nation as stated in documents such as Vision 2030, fourth National Development Plan, the National Health Strategic Plan and Reproductive Health Policy. It has been noted that the leading causes of maternal mortality in developing countries are haemorrhage, eclampsia, pre-eclampsia and malpresentations, which is accounting for half the deaths in expectant or new mothers (WHO 2016:44). In addition, it was observed that other non-obstetric causes of maternal deaths, which could be identified during antenatal period such as HIV/AIDS, accounted for 9% of all the maternal deaths in sub-Saharan Africa. The majority of these deaths are avoidable (WHO 2016:44).

### 1.3 RESEARCH PROBLEM

Gobabis Coordinating Committee (DCC) has reported low antenatal care coverage in Omaheke Region. Pregnant women attend antenatal care services late, mostly during the second and third trimesters and do not come for follow up of antenatal care appointments (Hamata 2014:10). Many pregnant women do not even register for antenatal care throughout the gestation. It was observed that many pregnant women only seek professional help when complications arise during pregnancy or labour. The low antenatal care coverage may lead to challenges in implementing programs such as Prevention of Mother-to-Child Transmission of Human Immunodeficiency Virus (HIV) (PMTCT) and Intermittent Preventive Treatment (IPT), which target pregnant women. Globally scientific evidence has shown that low utilisation of antenatal care services is influenced by some factors such as low maternal education, teenage pregnancies, multiparity, unplanned pregnancies and cultural factors. (Hamata 2014:12).

The Gobabis District Management Information System (DMIS) report for maternity patients with no antenatal care visits for Omaheke Health facilities from 01 January to 31 December of 2014, 2015 and 2016 indicates the following data: 272 (14.4%) maternity patients with no antenatal care visits in 2014, 217 (10.2%) in 2015 and 112 (5.3%) in 2016. Clients with one or two antenatal visits were reportedly 611 (32.4%), 761 (36.0%) in 2015 and 831 (39.3%) in 2016. Maternity patients with three or more antenatal care visits were 1000 (84.5%) in 2014, 1135 (53.7%) in 2015 and 1172 (55.4%) in 2016 respectively (Kabongo 2016: 22).

High blood pressure in pregnancy and unknown HIV status are among some of the complications reported by the nurses working in Gobabis District Hospital, maternity ward. In addition, the nurses reported that low birth weight, HIV infection and stillbirth are health problems faced by babies born to women who did not attend antenatal care clinic. Unfortunately, no research or survey was conducted to confirm these statements. A lot of initiatives are in place to encourage adequate antenatal care services utilisation to pregnant women, these include intensive Information, Education and Communication (IEC) on maternal health services offered in all the health facilities and through media in Omaheke Region. It is worrying that despite availability of the reproductive health policy and initiatives promoting adequate utilisation of antenatal care services, few pregnant women still utilise these services (Kabongo 2016: 25).

Therefore, this study aims to determine the barriers to utilisation of antenatal care services among pregnant women in Omaheke Region - Namibia.

## **1.4 AIM OF THE STUDY**

### **1.4.1 Research purpose**

The aim of the study is to determine the barriers to utilisation of antenatal care services among pregnant women in Omaheke Region - Namibia.

### **1.4.2 Research objectives**

- To explore and describe the barriers to utilisation of antenatal care services in Omaheke Region.
- To suggest recommendations for improving utilisation of antenatal care services among pregnant women in Omaheke Region.

### **1.4.3 Research question**

The study will attempt to answer the following question:

What are the barriers to pregnant women utilising antenatal care services in Omaheke Region?

### **1.4.4 Setting**

A research setting is the location where a study is conducted (Burns, Gray & Grove 2014:135). Omaheke Region is a Region with one District and with a population of 73031 according to the National Population Census of 2011. The Omaheke Region has 15 government health facilities, which consists of one district hospital, one health centre and 13 clinics. However only Gobabis District Hospital in Gobabis Town is a referral hospital in Omaheke region, delivering 80% of pregnant women. The researcher therefore selected the hospital for the research study. Pregnant women are just giving birth at peripheral health facilities, in case of emergency. This hospital is the main target

since it has numerous women who used to come from different peripheral health facilities for delivering their babies, kept for one or two days for postnatal care purposes and some are admitted in the maternity ward with complications of pregnancy.

## **1.5 SIGNIFICANCE OF THE STUDY**

The research study on identification of barriers to utilisation of antenatal care services in Omaheke Region may assist policy makers in drafting policies to address identified barriers to utilisation of antenatal care services among pregnant women. The information may further assist primary health care staff in emphasising and strengthening the awareness campaigns on importance of antenatal care visits in the community.

The research findings may assist community health workers in developing strategies to convince pregnant women to attend all four antenatal care visits. The outcomes of this study may assist the Ministry of Health and Social Services to improve the maternal and neonatal health as well as increase the antenatal care visits coverage among pregnant women thereby increasing the utilisation of PMTCT for HIV programme. It is anticipated that this research may contribute to the promotion and utilisation of antenatal care services among pregnant women in Omaheke Region.

## **1.6 DEFINITIONS OF KEY CONCEPTS**

### **1.6.1 Antenatal care**

Antenatal care is defined as the care given to pregnant woman without complications for at least four comprehensive antenatal visits. It is also described as the routine health control of presumed healthy pregnant women without symptoms (screening), in order to diagnose diseases or complicating obstetric conditions without symptoms, and to provide information about lifestyle, pregnancy and delivery (Backe, Pay, Klovning & Sand 2012:1).

### **1.6.2 Barrier**

A barrier is defined as variables and contributing factors that prevent or block pregnant women from making use of antenatal care services (Fagbamigbe & Idemudia 2015:36). In this research study, a barrier refers to a simple constraint or limited access to utilise particularly antenatal care services (Chhetri 2015:11).

### **1.6.3 Pregnant woman**

*Oxford South African Concise Dictionary* (2013:929) defines a pregnant woman as a woman who carries a developing foetus in her uterus from conception to birth. In this research study, a pregnant woman refers to a woman who carries a developing embryo and foetus in her womb for a period of nine months.

### **1.6.4 Antenatal care utilisation**

In the present study antenatal care utilisation refers to the number of visits pregnant women made as well as gestational age at which initial antenatal care visits was made by pregnant women (Banda 2013:29).

## **1.7 RESEARCH DESIGN AND METHOD**

Quantitative research design was used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics, which can include aspects such as attitudes, opinions, and behaviours, and generalised results from a large sample population (Polit & Beck 2012:201).

### **1.7.1 Research design**

Sullivan (2012:8) refers to research (study) design as the methodology that is used to collect the information to address the research question. For this research study, descriptive and cross sectional study designs were used.

### ***1.7.1.1 Descriptive study design***

Descriptive study generates hypotheses about associations between exposures and outcomes and is usually set out to describe characteristics of the group that is being investigated. The statistical goal is usually simple data description or estimation of a characteristic in the study population (Burns et al 2014:237). In this study, barriers that prevent pregnant women from utilising antenatal care services in Omaheke Region were described.

### ***1.7.1.2 Cross-sectional study design***

Cross-sectional design is a study design in which data are collected at one point in time; sometimes used to infer change over time when data are collected from different age or developmental groups (Polit & Beck 2012:725). In a cross-sectional study, the researcher usually selects the sample without reference to exposure or disease; often the sample is drawn at random from a defined population. For this research study, barriers to utilisation of antenatal care services among pregnant women in Omaheke Region can be compared between rural and urban, educated and uneducated pregnant women during analysis.

## **1.7.2 Research method**

### ***1.7.2.1 Population and sample selection***

According to Namibian Law of Child Care and Protection Act (Act No 3 of 2015, Section 10); the set age of a child is 18 years (Namibia 2015). Therefore, all women of childbearing age between (18-49 years old) who visited Gobabis District Hospital in Omaheke Region for deliveries (full-term) or kept for postnatal care purposes were selected for the research study.

### ***1.7.2.2 Data collection method***

The researcher developed a questionnaire that included open and closed ended questions, where respondents typically indicated degree of agreement or disagreement with each statement. The major topics included in the questionnaire were participants'

personal characteristics, utilisation of antenatal care services, and knowledge about antenatal care services.

### ***1.7.2.3 Data management and data analysis***

#### ***1.7.2.3.1 Data management***

The Statistical Package for Social Sciences (SPSS) for windows version 7.0 was used. The researcher prepared the data; checked or logged in the data; checked the data for accuracy; entered the data into the computer, transformed the data, then developed and documented a database structure that integrated the various measures.

#### ***1.7.2.3.2 Data analysis***

A statistician was recruited to assist in analysing the data. Descriptive statistics were used to describe the basic features of the data in a study. The researcher provided simple summaries about the sample and measures with simple graphic analysis such as bar graphs, tables and pie charts, to simply describe the data.

## **1.8 SCOPE**

The study focuses on barriers to utilisation of antenatal care services among pregnant women found at one hospital in Omaheke Region. The size of the sample was limited to the size of the interviewing staff. The area in which the interviews were conducted was limited in Gobabis District Hospital and hence the limitation on the sample size.

## **1.9 STRUCTURE OF THE DISSERTATION**

<b>Chapter</b>	<b>Description</b>
Chapter 1	Introduction and background of the study
Chapter 2	Literature review
Chapter 3	Research design and methodology.
Chapter 4	Data analysis, interpretation of results, and discussion of study findings
Chapter 5	Conclusion and recommendations of the study

## **1.10 CONCLUSION**

Chapter 1 provides the background and orientation to the research study. Chapter 2 focuses on the literature review.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter focuses on literature in Africa and other parts of the world where studies on antenatal care utilisation were conducted. The literature review is structured under the following sub-headings: maternal health, antenatal care, possible complications of not getting antenatal care services, the importance and benefits of antenatal care services, and barriers to access and utilisation of antenatal care services.

#### **2.2 MATERNAL HEALTH**

Maternal health is defined as the health of the women during pregnancy, childbirth and postpartum period (Tran 2012:1). All women need access to good quality antenatal, childbirth and postpartum care. It is also crucially important to ensure access to contraception in order to prevent unintended pregnancies. Health problems during pregnancy may have serious consequences, not only for the woman but also for her baby, her family and her community. Although motherhood is often a positive and fulfilling experience, for too many women birth is associated with suffering, ill health and even death.

Maternal health and health care are important determinants of neonatal survival and child health outcomes. Therefore, improvements of maternal and child health are important global public health goals. In the Sustainable Development Goals (SDGs) report which was formulated in 2012, it was reported that members of the United Nations are committed to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030. Countries are aiming at reducing neonatal mortality to at least as low as 12 per 1000 live births by 2030 (United Nations 2016).

Access to appropriate maternal healthcare services is a fundamental right. Higher numbers of maternal deaths occur during childbirth and postpartum period, and the vast majority of these deaths are avoidable. Provision of skilled care for all women before,

during and after childbirth is a key strategy for saving women`s lives and ensuring the best chance of delivering a healthy baby. Antenatal care is considered a basic component in any maternal healthcare programme (WHO 2016:34).

## **2.3 ANTENATAL CARE**

Antenatal care is the routine health control of presumed healthy pregnant women without symptoms (screening), in order to diagnose diseases or complicating obstetric conditions without symptoms, and to provide information about lifestyle, pregnancy and delivery (Backe et al 2012:1). It is further described as care given to a pregnant woman which is focused on tracking baby`s growth and watching for any problems with the woman`s own health (Roger & Myra 2011:139).

### **2.3.1 The standard management of pregnant woman at the first antenatal visit**

First antenatal visit is the most important visit which needs to be managed properly and all pregnant women are required to be holistically examined in order to detect all the problems as early as possible. The most important aspects, which need to be managed well during the first antenatal visit, are as follows: health education, history taking, clinical examination, abdominal examination and laboratory testing.

#### ***2.3.1.1 Health education***

Health education is defined in medical terminology as an educational programme directed to pregnant women in order to attempt to improve, maintain and safeguard the health of pregnant women and babies (Al-Ateeg 2015:239). The aim of the health education during antenatal care is to provide advice, education, reassurance and support, to address and treat minor problems of pregnancy and to provide effective screening during the pregnancy (Al-Ateeg 2015:240). Provision of information about breastfeeding, HIV testing and family planning, diet, exercise, smoking, drugs and alcohol use can be given and necessary corrections made as early as possible (Kitzinger 2011:91).

### ***2.3.1.2 History taking***

History taking is a key component, which is part of the general assessment of a woman during pregnancy, enabling the delivery of high-quality care. Understanding the complexity and processes involved in history taking allows nurses to gain a better understanding of patient's problems (Fawcett & Rhynas 2012:41). History taking is an extremely important part of antenatal care and serves as a screening procedure, which can identify factors that may be detrimental to the normal course of pregnancy, which are high risk factors. The history taking should include the following information:

#### ***2.3.1.2.1 Social history***

Midwives need to include the information on woman's personal details such as her level of education, financial situation, support systems: after care for the mother and baby, age, marital status and employment history of husband or partner. Furthermore, midwives need to know if the woman's race or religion is unusual; if a midwife is not familiar with it or suspects that there are certain restrictions within the religion such as restrictions of blood transfusion or if a woman is not encouraged to receive medical attention (Sellers 2013:184).

#### ***2.3.1.2.2 Family history***

Family history is very useful especially in identifying or predicting genetic conditions. A pregnant woman should be questioned about any history of multiple pregnancies and the history or presence of any abnormal conditions and haematological (blood) disorders. Any congenital diseases or deformities such as Down Syndrome should be included because risk of Down Syndrome increases in women who become pregnant at the age of 35 years or older and also for those whose previous pregnancy had a foetus with Down Syndrome.

The woman should be asked about her pregnancies and labours, condition of her siblings at birth and later such as abortions, preterm or prolonged pregnancies, caesarean sections etc. because same conditions could happen during the current pregnancy. The partner or husband's attitude towards the pregnancy, or acceptance of the pregnancy needs to be asked as it may affect a pregnant woman's attitude towards

her pregnancy, which is also likely to affect her behaviour towards the baby. Lack of acceptance of the pregnancy may lead to bad behaviours such as smoking, drinking alcohol and not even attending antenatal care services (Sellers 2013:184).

#### *2.3.1.2.3 The woman's personal history*

- **Past medical history**

It is necessary for the health care provider to understand the past medical history of a pregnant woman in relation to the history of the present pregnancy in order to detect the possibility of complications. The woman's past medical history, which includes immunisations such as Rubella and Tetanus Toxoid need to be ascertained. The history of previous diseases or abnormalities such as hypertension, renal disease, cardiac disease, diabetes mellitus, anaemia, asthma and bleeding tendencies should be included.

- **Past surgical history**

Obtaining surgical history is necessary especially for abdominal surgery such as for previous ectopic pregnancy or myomectomy or abdominal scars from previous caesarean sections in order to avoid rupture of uterus during labour and to advise the woman to give birth in the hospital (Sellers 2013:184). Any previous surgery to the birth canal needs to be known to prevent rupture or damage to the birth canal. Accidents especially involving the spine or pelvis need to be included because it contributes to the pregnancy-related pelvic girdle pain or symphysis pubis dysfunction. It can even make a vaginal delivery impossible and doctors may opt for a caesarean section.

#### *2.3.1.2.4 Present medical history*

- **The treatment which the woman is receiving at present**

The information on the type of treatment that the woman is receiving needs to be obtained because some treatments are not safe to take during pregnancy as they may cause complications such as foetal malformations, miscarriage, perinatal death and increased seizures frequently. Some medicines that are used to treat health problems of

a woman before she became pregnant could be harmful if taken during pregnancy. At the same time, stopping medicines that you need could be more harmful than the risks posed should you become pregnant. The health care provider should know the treatment which the pregnant woman was on in order to advise her of the available treatment options that can be used during pregnancy (Sellers 2013:185).

- **The weight and height of the pregnant woman**

The woman needs to be weighed in order to obtain baseline reading that will be used to monitor the health and growth of the baby. Height needs to be measured because short women are more likely to have small pelvis, which can lead to dystocia with cephalopelvic disproportion or shoulder dystocia. For short women, preterm labour and intrauterine growth restriction are also more likely (Paterson 2014:1).

- **Rhesus factor and blood group**

Blood group and Rh factor should be tested in case a pregnant woman might require blood transfusion before, during or after delivery. The doctor should know the type of blood group in advance in order to avoid delay in offering treatment (Sellers 2013:190).

- **Dietary history**

It is important for a pregnant woman to have a balanced diet, which is essential for growth and development of the baby and health of the mother. The importance and benefits of the balanced diet among pregnant women and babies are as follows:

- It reduces pregnancy complications such as high blood pressure and gestational diabetes.
- It can help reduce the risk for birth defects of the brain and spinal cord; it ensures a healthy weight for the newborn baby.
- A healthy, well balanced diet during pregnancy can also help to minimise some pregnancy symptoms such as nausea and constipation. The midwife needs to ascertain the number of meals that are taken by the pregnant woman per day, and the types and amounts of food eaten by the woman in order to guide her on a well-balanced diet (Kitzinger 2011:96).

- **Social habits**

The health worker should ask whether a pregnant woman is using tobacco or smoking cigarettes because it can cause intrauterine growth restriction. It is also important to know whether the pregnant woman is drinking alcohol because it can cause foetal alcohol syndrome (Kitzinger 2011:102).

#### *2.3.1.2.5 Gynaecological history*

Any vaginal discharge and venereal diseases such gonorrhoea and syphilis need to be known so that pregnant woman can be treated as early as possible to prevent congenital syphilis to the unborn baby. Any previous surgery to the birth canal needs to be known to prevent rupture or damage to the birth canal, Contraceptive history such as type of contraceptive used should be enquired about, for example intrauterine contraceptive device (IUCD) so that it can be removed if the woman becomes accidentally pregnant while having intrauterine contraceptive device (Sellers 2013:185).

#### *2.3.1.2.6 Past obstetrical history*

The number of pregnancies, including the present pregnancy, needs to be known because too many pregnancies can deplete mother's nutrients and stretch her uterus, which increases risks of postpartum haemorrhage and rupture of uterus during and after delivery (Davis 2012:15). The number of previous viable pregnancies, infant stillborn or alive needs to be known so that healthcare provider can do some tests and measurements that can identify potential problems in pregnancy to save the life of the unborn baby. History of previous caesarean sections also needs to be known for the healthcare provider and mother to prepare themselves for the next caesarean section (Davis 2012:15).

#### **2.3.1.2.7    *History of current pregnancy***

The date of the first day of the last menstruation period needs to be ascertained in order to determine the estimated date of delivery (Davis 2012:20). The woman's attitude towards the pregnancy, whether it was an unplanned pregnancy or not needs to be ascertained. If the pregnancy was unplanned, the woman needs to be counselled and encouraged to attend antenatal visits. Since the first day of the last menstruation period, potentially teratogenic exposures that woman undergone, other treatment or exposure, particularly: X-rays, deep X-Ray, any medications taken and any infections need to be known by the healthcare provider to avoid abnormal foetal development. The woman should be advised to reduce the risk of exposure to teratogens during pregnancy and to avoid taking over the counter medications when possible. In addition, the pregnant woman should be advised to avoid exposure to the following: excessive heat, herbal treatments, ionising radiation, certain infections such as toxoplasmosis, chicken pox, rubella and cytomegalovirus to prevent birth defects (Davis 2012:19).

#### **2.3.1.3    *Clinical examinations***

After a woman realises that she has become pregnant or her pregnancy test is positive, she should visit the clinic or doctor for check-up. Every pregnant woman should undergo a complete clinical examination early in pregnancy to rule out any conditions that might negatively affect herself or the health of her baby (Kitzinger 2011:48).

##### **2.3.1.3.1    *General examination***

- General examination of the pregnant woman will include the woman's psychological and emotional state which should be assessed and noted.
- Urine test is done, weight and height measured, note also her gait, posture, as well as her limp, very small or tall and possible kyphosis. Body temperature, pulse, respiration and blood pressure should be examined (Sellers 2013:186).

### 2.3.1.3.2 *Examination of the pregnant woman from head to toe*

- The skin should be checked for pallor, which may occur due to anaemia or other blood disorders or to genetic inborn errors of metabolism such as phenylketonuria.
- The presence of oedema on the skin indicates the possibilities of pre-eclampsia, cardiac or renal disease in pregnancy.
- The presence of petechiae or bruises on the skin of the pregnant woman indicates the possibilities of trauma or bleeding tendencies.
- The hair is checked for possible abnormalities of texture and the distribution should be noted which might be due to malnutrition or hypothyroidism.
- The head and face – the eyes are examined for possible abnormalities such as deformities for examples sight impairment or eye discharges.
- The nose is checked for possible abnormalities such as blocked nose, broken nose, rhinitis and discharge as well as bleeding.
- The mouth is checked for possible abnormalities on gums, pallor, lesions and bleeding.
- The neck is checked for possible abnormalities of stiffness, which may indicate spinal or neurological conditions. Carotid pulse should be examined for diminished or absence which may indicate cardiovascular disease.
- The shoulders and arms are checked for possible abnormalities such as tension of muscles, lack of muscle tone, obesity or excessive thinness and enlarged joints that may indicate arthritis.
- The chest (including heart and lungs) is checked for normal shape and symmetry; sternum and ribs and for possible abnormalities such as barrel or pigeon chest which may indicate the presence of asthma, emphysema, chronic pulmonary or cardiac disease.
- The breasts are checked for possible abnormalities such as lumps and /or coarse or orange-peel appearance of skin, which may indicate carcinoma. Hard or tender lumps or areas of redness and heat may indicate infection.
- Abdomen examination is performed by general inspections of the mother and her bump (fundus), and any abdominal striations or linear nigra, which are signs of pregnancy, and whether she has a previous Caesarean section scar. The lie of the baby, which can be longitudinal, transverse or oblique, is also checked. From



24 weeks, symphysis-fundal height should be measured and recorded at each antenatal care visit. If a foetus appears to be small or large for gestational age, further assessment should be done by ultrasound. After 36 weeks, an ultrasound scan should be done to determine malpresentations of the baby. Routine foetal auscultation by Doppler and foetal movement counting by pregnant women is important to determine if the foetus is alive or not (Sellers 2013:199).

- Pelvic examination during pregnancy is done to detect anatomical abnormalities, sexually transmitted infections, to evaluate the size of a woman's pelvis (pelvimetry) and to assess the uterine cervix so as to be able to detect signs of cervical incompetence associated with recurrent mid-trimester miscarriages, or to predict preterm labour.
- The legs are checked for possible abnormalities such as stiffness of joints or poor muscle tone, which may indicate arthritis or muscular dystrophy. Lack of sensation may be caused by neurological disorders.
- The back is checked for possible abnormalities such as spinal deformities, abnormal curves, spina bifida and any severe backache especially in early pregnancy.
- Vulva and perineum are checked for any anatomical abnormalities, which may indicate congenital abnormalities, deformities; cystocele and prolapse of the uterus. Abnormal vaginal discharges and offensive odours may indicate sexually transmitted infections such as trichomonas or venereal diseases such as gonorrhoea.
- The buttocks and anal region are checked for possible abnormalities such as congenital deformities, haemorrhoids and fissures. Haemorrhoids and fissures can lead to rectal bleeding during labour (Sellers 2013:188).

#### **2.3.1.4 Laboratory testing**

Pregnancy is the period of time when a foetus develops inside a woman's uterus and ends with the birth of the baby according to (*Oxford South African Concise Dictionary* 2013:929). There are a variety of clinical laboratory tests typically used prior to and throughout pregnancies. The tests provide useful information from the time pregnancy is first considered through the initial days of the newborn's life. The purposes of the prenatal laboratory tests are to screen for or and diagnose any existing problems that

may affect the mother or baby's health and to identify and address problems as they arise. The following blood tests are generally performed on the pregnant woman:

#### *2.3.1.4.1 Blood glucose or haemoglobin.*

Haemoglobin is the substance that carries oxygen to every cell in the body (Kitzinger 2011:42). The body uses iron to produce haemoglobin. When a woman is pregnant, she needs much more iron than usual to produce enough haemoglobin and to lay down iron stores for the baby. A pregnant woman with low haemoglobin is having anaemia (Kitzinger 2011:42).

Blood glucose test measures the amount of sugar in the blood. Blood glucose may be used to detect high blood sugar (hyperglycaemia) and low blood sugar (hypoglycaemia) and to help to diagnose diabetes, prediabetes and gestational diabetes. Gestational diabetes is common among pregnant women and if not diagnosed and treated, the mother may deliver a baby too large for gestational age with a subsequent difficult birth (Sellers 2013:190).

#### *2.3.1.4.2 Immunity to Rubella (German measles)*

Blood sample is taken to check for immunity to rubella virus, which can cause birth defects.

#### *2.3.1.4.3 Pap test and Human papilloma virus (HPV) testing*

Screening for Pap test offers the best chance to have cervical cancer found early when successful treatment is likely. Screening can also actually prevent most cervical cancers by finding abnormal cervical cell changes (pre-cancers) so that they can be treated before they have a chance to turn into a cervical cancer. Human papilloma virus (HPV) test checks for a virus that spreads through sexual contact. HPV can cause normal cells on the cervix to be abnormal, which can turn into cervical cancer if not treated early (Davis 2012:41).

#### *2.3.1.4.4 HIV screening test*

The blood sample should be taken to check for HIV infection, so steps can be taken to reduce the likelihood of transmission to the baby (Roger & Myra 2011:107).

#### *2.3.1.4.5 Gonorrhoea, chlamydia and syphilis tests*

Blood sample should be taken to check for sexually transmitted infections, which cause miscarriage or infect the baby during delivery (Sellers 2013:210).

#### *2.3.1.4.6 Hepatitis B and Hepatitis C screening*

If the pregnant woman tested positive for Hepatitis B infection during prenatal visits, Hepatitis B immune globulin should be given to prevent Hepatitis B transmission to the newborn baby during delivery. The newborn baby should be given Hepatitis B immune globulin at birth (Roger & Myra 2011:106).

#### *2.3.1.4.7 Urine for glucose and or protein*

The urine sample should be taken to check for signs of kidney or bladder infections, undiagnosed diabetes, gestational diabetes or pre-eclampsia (Sellers 2013:199).

#### *2.3.1.4.8 Complete full blood count*

Blood sample should be taken to check the number of red blood cells and white blood cells in the body. Red blood cells are important because they carry oxygen throughout the woman's body. A low blood cell count could mean that the woman has anaemia, while white blood cells are warriors that fight infections. A high white blood cell count could mean that a woman has an infection, which needs to be treated. Low platelet count or low blood-clotting needs to be detected, if the platelet count is extremely low, it may mean the pregnant woman is more likely to bleed either during or after birth or during a caesarean section and doctors and midwives should be extra cautious during that period (Davis 2012:107).

#### *2.3.1.4.9 Blood group and antibody screen*

Taking a blood sample to identify ABO blood, Rhesus D status and cell antibodies in pregnant woman is important to prevent haemolytic disease of the newborn in subsequent pregnancies (Roger & Myra 2011:106).

### **2.4 POSSIBLE COMPLICATIONS FOR PREGNANT WOMEN NOT GETTING THE ANTENATAL CARE SERVICES**

The pregnant woman should attend antenatal care services in the 1<sup>st</sup> trimester of pregnancy and adhere to all the procedures that are done during the first antenatal visit such as laboratory testing, clinical examinations and history taking. She should continue to attend follow-up antenatal visits following the dates of appointments as indicated to her. This will help health professionals to detect any health problems of the mother and baby as early as possible and interventions can be done to solve the problems. The pregnant woman's failure to attend antenatal care services may lead to the following possible complications:

#### **2.4.1 Complications on mothers**

- Maternal mortality and morbidity due to haemorrhage, eclampsia and pre-eclampsia.
- Maternal anaemia can happen if oral iron tablets are not given to pregnant women during pregnancy. Anaemia in pregnancy increases the risk of dying from bleeding.
- Malaria infection occurs if intermittent preventive treatment in pregnancy was not given to pregnant women who reside in malaria areas especially during the rainy season. Malaria infection further contributes to the risk of maternal anaemia.
- Uncontrolled medical conditions in pregnancy such as, pre-eclampsia, eclampsia and diabetes, TB and HIV/Aids may contribute to maternal deaths.
- Undetected malpresentations and multiple pregnancies may contribute to maternal deaths during labour/delivery.
- Lack of information on importance of antenatal care services may contribute to postpartum depression among mothers (Davis 2012:20).

## **2.4.2 Complications on babies**

- Neural tube defects, serious abnormalities of the brain and spinal cord will happen to newborn babies if folate and folic acid were not given to pregnant women.
- Newborn babies would be infected with HIV if pregnant mothers are not given ART while pregnant or during labour.
- Neonatal tetanus can occur to a newborn baby, if tetanus toxoid vaccination was not given to a pregnant mother.
- Anaemia in pregnancy, which is associated with an increased risk of stillbirth, low birth weight, prematurity and neonatal deaths may occur.
- Antepartum stillbirths due to maternal infection notably syphilis, preterm birth, congenital infections and foetal alcohol syndrome may occur especially to babies whose mothers were drinking alcohol while pregnant.
- Maternal syphilis, gonorrhoea, chlamydia and malaria contribute to the intrauterine foetal deaths (Davis 2012:21).

## **2.5 IMPORTANCE AND BENEFITS OF ANTENATAL CARE SERVICES**

### **2.5.1 Health education, advice and counselling**

Health care providers should educate mothers on important health issues such as their diet and nutrition, exercise, tetanus immunisations, weight gain, safe sex, rest, and abstaining from drugs and alcohol, sleeping under insecticide treated nets, birth, and emergency plan. Ante natal services afford health professionals an opportunity to instruct expecting parents on nutrition for their new born, benefits of breastfeeding, injury and illness prevention, as well as monitoring of health-compromising conditions, and help them to prepare for new emotional challenges of caring for an infant (Davis 2012:34-39).

### **2.5.2 Prevention and case management of maternal malaria in pregnancy**

In areas of high and moderate (stable) malaria transmission, adult women acquire immunity and most malaria infections are asymptomatic. These asymptomatic infections of the placenta result in anaemia for the mother and contribute to spontaneous abortion, foetal loss, low birth weight and intrauterine growth retardation and preterm birth, which lead to higher infant mortality and impairment development of the child (WHO 2014:3). Preventive measures are put in place such as free insecticide-treated nets (ITNs) which are given out in government health facilities. The government of Namibia introduced Intermittent Presumptive Treatment (IPT) of malaria with Sulphadoxine-pyrimethamine for pregnant women as a national policy. Intermittent Presumptive Treatment with Sulphadoxine-pyrimethamine, which is provided for malaria in pregnancy in areas of high or seasonal transmission, has been shown to increase both maternal haemoglobin levels and the infants' birth weight. WHO recommends that all pregnant women in areas of stable malaria transmission should receive at least two doses of IPT after quickening (first noted movement of the foetus) during regularly/routinely scheduled antenatal clinic visits (Namibia Ministry of Health and Social Services (MoHSS) and ICF International. 2012:680).

### **2.5.3 Distribution of drugs**

Pregnant women need to be given the following drugs: supplement of folic acid to be taken every day to aid the proper development of the baby's nervous system and to prevent a particular type of anaemia. Iron supplements should be given to a woman from the fourth month of pregnancy and the woman should continue taking it even after delivery when she will be feeding the baby. Tetanus toxoid vaccination is also recommended for all pregnant women, depending on previous tetanus vaccination exposure, to prevent neonatal mortality from tetanus (Roger & Myra 2011:38).

### **2.5.4 Prevention of mother-to-child transmission (PMTCT)**

The transmission of HIV from HIV-positive mother to her child during pregnancy, labour, delivery or breastfeeding is called mother-to-child transmission (WHO 2015:90). WHO recommended that every pregnant woman should be given an opportunity to know their HIV status to save the life of the mother and unborn baby. In the absence of any

intervention, transmission ranges from 15% to 45%. This rate can be reduced to below 5% with effective interventions during the periods of pregnancy, labour, delivery and breastfeeding. Interventions primarily involve antiretroviral treatment for the mother and a short course of antiretroviral drugs for the baby (WHO 2015:91).

## **2.6 BARRIERS TO ACCESS AND UTILISATION OF ANTENATAL CARE SERVICES**

In this subsection, barriers to access and utilisation of antenatal care service are discussed. The barriers include age, marital status, urban-rural residence, tribe or ethnic group, level of education, economic status and employment, parity and child care. In addition, permission to attend antenatal care, unplanned and unwanted pregnancy, long distance to health facility, cost of services, lack of transport to health facilities, attitude of staff at health facility and attitude of community towards antenatal care are described. Furthermore, availability of health facilities, skilled health workers, equipment and Traditional Birth Attendants, cultural, tradition, spiritual beliefs and religion are also discussed.

### **2.6.1 Age of pregnant woman and marital status**

This study targeted the women of childbearing age from 18-49 years and marital status of the women of the same ages. The studies conducted in Ghana and Nigeria on determinants of utilisation of antenatal care services in developing countries found out that women of less than 20 years of age are a significant predictor of the intensity of antenatal care services utilisation (Nkenti-Asamoah, Senadza & Arthur 2013:58; Ugbor, Wayas, Onyinye, Nwanosike & Dominic 2017:361). Another study conducted in Kenya showed similar finding that women aged below 20 years were associated with least uptake (31%) of focused antenatal care compared to women aged 30-34 years (63%) (Gitonga 2017:51). Another study conducted in Ethiopia showed the similar finding that factor of age was associated with antenatal care services utilization (Mulat, Kassaw & Aychiluhim 2015:9).

A study which was conducted in South Africa on access to antenatal care services indicated that married women were more likely to adequately attend antenatal care visits compared to unmarried women, although the association of it was non-significant

(Muhwava, Morojele & London 2016:64). Similar findings were also indicated in a study conducted in Kenya on determinants of focused antenatal care uptake among women, that married women have been found to use antenatal visits earlier than the unmarried women (Gitonga 2017:52). The researcher tried to find other barriers that prevent unmarried women from utilising the antenatal care services and the available gaps, which need to be addressed.

## **2.6.2 Urban-rural residence and tribe or ethnic group**

Most of the people in developing countries are residing in rural areas and they mostly believe in their tribal norms. Studies were conducted in African countries, namely Ghana and Ethiopia on determinants of utilisation of antenatal care services and on factors affecting utilisation of maternal health care services. In Ghana, it was found out that ownership of health insurance especially for rural women is a significant predictor of the intensity of antenatal care services utilisation (Nkentiah-Amponsah et al 2013:58); while in Ethiopia, rural-urban residence was found to be a significant predictor of antenatal care utilisation (Ayele, Belayihum, Teji & Ayana 2014:47). A similar study which was conducted in South Africa on access to antenatal care services indicated that in urban areas, women who were employed were more likely to initiate antenatal care early compared to women who were unemployed while in rural areas (Muhwava et al 2016:65).

## **2.6.3 Level of education, economic status and employment**

### ***2.6.3.1 Level of education***

Globally, the importance of education and the benefits are as follows: improving health, raising income, promoting gender equality and reducing poverty. The World Bank reports that investment in health education and communication can increase demand for Maternal and Newborn Health (MNH) care (WHO, UNICEF, UNFPA, the World Bank and United Nations Population Division 2014:22). Improvements in women's status through education and economic opportunity have a strong influence on demand for MNH services System (WHO, UNICEF, UNFPA, the World Bank and United Nations Population Division 2014:23). A study conducted in Nigeria on the socio-economic factors that determine women utilisation of health care services identified that the



women's level of education is one of major factors influencing health services among pregnant women (Ugbor et al 2017:361). Another study conducted in Nigeria on patterns and determinants of dropout from maternity care continuum found out that 63.8% of women with no formal education and 2.7% of those who attained higher education did not access antenatal care. Similar studies from developed countries found a barrier to antenatal care utilisation as less education among pregnant women (Deo 2015:241).

### ***2.6.3.2 Economic status and employment***

Globally, good economic status benefits the lives of unborn babies and children at large because women would get good employment and earn better income making them not to depend on men for financial support. A study conducted in Rwanda on determinants of poor utilisation of antenatal care services among recently delivered women indicated that no significant associations were found for school attendance or household assets (proxy for socio-economic status) with poor utilisation of antenatal care services (Rurangirwa, Mogren, Nyirazinyoye, Ntaganira & Krantz 2017:141). A study conducted in Kenya on determinants of focused antenatal care uptake among women indicated that women from households with higher income had a higher uptake of focused antenatal care than those from low-income households (Gitonga 2017:52). A similar study conducted in Nigeria on the socio-economic factors that determine women's utilisation of health care services identified income or wealth index of the women as one of ten major factors influencing health services among pregnant women (Ugbor et al 2017:361).

### **2.6.4 Parity and child care**

Parity is defined as the number of times that a woman has given birth to a foetus with a gestational age of 24 weeks or more, regardless of whether the child was born alive or was stillborn (Naik & Smith 2015:2). Baruah, Boruah and Ram Das (2016:805) conducted a study in India which shows that utilization of antenatal care services was found to be better among primigravidae compared to the multigravidae. A study conducted in Nigeria on patterns and determinants of dropout from maternity care continuum found out that non-use of antenatal care increased with birth order from

33.5% among the woman of first birth to 43.8% in those with 4 or more living children (Akinyemi, Afolabi & Awolude 2016:282).

Studies from developed countries have shown that parity and childcare are barriers to antenatal care utilisation (Deo, Paudel, Khatri, Bhaskar, Paudel, Mehata & Wagle 2015:196). A similar study conducted in Canada on barriers, motivators and facilitators related to prenatal care utilisation found out that childcare was one of the barriers (Heaman, Moffat, Elliot Sword, Helewa, Moris, Gregory, Tjaden & Cook 2014:226). Furthermore, a study conducted in the Netherlands on factors affecting the use of prenatal care by non-western women in industrialised countries showed that multiparity was a barrier which associated with late prenatal care entry (Boerleider, Wiegers, Mannien, Francke & Deville 2013:66).

#### **2.6.5 Permission to attend antenatal care**

Permission refers to giving someone authority to do something (*Oxford South African Concise Dictionary* 2013:877). A study conducted in Bangladesh on exploring maternal health care-seeking behaviour of married adolescent girls indicated that decisions regarding the use of antenatal care services were influenced by different family members including husbands, parents-in-law especially mothers-in law, girls' parents and senior relatives (Shahabuddin, Nostlinger, Delvaux, Sarker, Delamon, Bardaji, Broerse & De Brouwere 2017:76). A similar qualitative study conducted in Pakistan on health care seeking behaviours in pregnancy in rural Sindh revealed that husbands and mothers-in-law were the most important decision makers in giving women permission regarding health care utilisation (Qureshi, Sheikh, Khowaja, Hoodbhoy, Zaidi, Sawchuck, Vidler, Bhutta, Von Dadeslzen & Clip Working Group 2016:34). The researcher would like to explore more whether women in Omaheke are seeking permission from someone to utilise antenatal services.

#### **2.6.6 Unplanned and unwanted pregnancy**

*Oxford South African Concise Dictionary* (2013:1304) defined unplanned or unwanted pregnancy as a mistimed pregnancy or pregnancy that is not desired by one or both biologic parents. Studies from developed countries have shown that unplanned pregnancy is one of the barriers to antenatal care utilisation (Deo et al 2015:197). A

similar study conducted in the Netherlands on factors affecting the use of prenatal care by non-western women in industrialised countries showed that unplanned pregnancy was a barrier which was associated with late prenatal care entry (Boerleider et al 2013:67). A study was conducted in South Africa on access to antenatal care services and results indicates that women who wanted pregnancy were associated with increased odds of adequate attendance of antenatal care visits compared to unwanted pregnancy (Muhwava et al 2016:66). The researcher's understanding is that an unplanned or unwanted pregnancy was just a mistake but should be treated or managed like a planned pregnancy and a planned baby.

#### **2.6.7 Long distance to health facility and cost of health services**

Most of the health facilities are far from each other especially in remote/rural areas and majority of poor women reside in rural areas without financial means. A study conducted in Bangladesh on exploring maternal health care seeking behaviour of married adolescent girls indicated that accessibility due to long distance to health facility and cost of health services influenced pregnant women not to utilise antenatal care services (Shahabuddin et al 2017:75). A study conducted in Pakistan on barriers to visiting a health facility for antenatal services shows that rural women are restricted to visit antenatal care clinic due to financial limitation to pay consultation fees and transport (Nisar, Aurangzeb, Dibley & Alam 2016:6).

A qualitative study conducted in Papua New Guinea indicates that although women saw accessibility (distance and cost) as a barrier, those who lived close to health facilities and could easily afford antenatal care also demonstrated poor attendance (Andrew, Pell, Anqwin, Auwun, Daniels, Mueller, Phuanukoonnon & Pool 2014:5).

Furthermore, a study conducted in Uganda indicated that health facilities are sometimes located a long distance away from residential areas which discourage pregnant mothers from attending antenatal care services (Okutu 2015:15). In addition, a study conducted in Ghana on assessing the effects of socio-cultural factors in maternal health care identified that long distance to health facilities, is one of the contributing factors (Feidiib 2017:4). Chiang, Labeeb, Higuchi, Mohamed and Aoyama (2013:227) observed distance and paying for health services as barriers to the use of basic health services. In Nigeria, utilisation of antenatal care was subjected to socio-cultural factors, which

includes the affordability of health services (Ogundaino & Jegede 2016:1043). The researcher's understanding is that antenatal care service does not require a service fee.

#### **2.6.8 Lack of transport to health facilities**

*Oxford South African Concise Dictionary* (2013), defines transport as to carry, move, or convey from one place to another by means of a vehicle, a bicycle etc. In this research study, transportation of pregnant woman refers to movement of a woman from where she stays to a health facility for utilisation of antenatal care services. A qualitative study conducted in Pakistan revealed that there was poor availability of transport as a barrier to health care utilisation (Qureshi et al 2016:35). A study conducted in Ghana on assessing the effects of socio-cultural factors in maternal health care identified lack of proper means of transport as one of the contributing factors (Feidiib 2017:4).

In a qualitative study conducted in Kenya on barriers and facilitators to antenatal and delivery care observed unpredictable labour and transport as some of the barriers (Mason, Dellicour, Ter Kuile, Ouma, Phillips-Howard, Laserson & Desai 2015:16). A similar study conducted in South Sudan indicated that lack of commercial or private means of transport contributed to the inaccessibility of antenatal care services (Wilunda, Scanagatta, Putoto, Montalbetti, Esgafredo, Takahashi, Mizerero & Betran 2017:44). The same study conducted in Indonesia indicated that women who accessed antenatal care services by walking were more likely to receive less than four antenatal visits compared to women who used transport (Agus, Horiuchi & Porter 2012:588). The researcher had the understanding that the challenge of transporting pregnant women to health facilities can be addressed if respondents can provide all the information they are having on transport.

#### **2.6.9 Attitude of staff at health facility and attitude of community towards antenatal care**

Attitude is generally defined as a person's response to his or her environment either positively or negatively (Williams, Kern & Walters 2017:22). Attitude in this study refers to the manner in which staff at a health facility responds towards pregnant women and the manner in which community members respond towards antenatal care. A study conducted in Nepal observed that various characteristics of maternal health care

delivery system were considered to determine women's decision to seek health care, and the relationship between the health service provider and women seeking for health services (Chhetri 2015:73).

A qualitative study conducted in Papua New Guinea indicates that attitudes to antenatal care were shaped by previous experiences of antenatal care such as waiting time, quality of care and perceptions of preventative care and medical interventions during pregnancy (Andrew et al 2014:5). Another study conducted in Nigeria on the socio-economic factors that determine women's utilisation of health care services identified the type of health care attendant doctor, nurse/midwife and auxiliary/midwife as one of ten major factors influencing health services among pregnant women (Ugbor et al 2017:361).

Similar study conducted in Ethiopia on factors affecting utilisation of maternal health care services indicated that perception of women to the quality of maternal services was found to be significant predictor of antenatal care utilisation (Ayele et al 2014:47). In a study conducted in Egypt on barriers to the use of basic health services among women, authors observed that allocating time to go to health facilities, or concern about lack of female doctors are the barriers to the use of basic health services (Chiang et al 2013:227). A case control study conducted in Canada on barriers, motivators and facilitators related to prenatal care utilisation showed that thinking about abortion and prenatal care attitudes are some of the barriers (Heaman et al 2014:227). The researcher has experienced that attitude of community towards antenatal care can be addressed if pregnant women could be made aware on the importance of antenatal care services.

#### **2.6.10 Availability of health facilities, skilled health workers, equipment and Traditional Birth Attendants (TBAs)**

The infrastructures, well-qualified health professionals and equipment are very much important in the utilisation of antenatal care services and they should be considered. The World Bank reports that investments in health education and communication can increase demand for maternal and newborn health (MNH) care (World Bank 2014:22). Furthermore, the World Bank indicates that when health staff work with adequate equipment and supplies, they manage health problems better, thereby improving the

health outcomes (WHO, UNICEF, UNFPA, the World Bank and United Nations Population Division 2014:22). Another study conducted in Nepal observed that characteristics of maternal health care delivery system were considered not functioning well due to unavailability of the health facilities and equipment (Chhetri 2015:73). A study conducted in Bangladesh on exploring maternal health care-seeking behaviour of married adolescent girls indicated that availability of the health facilities and lack of basic instruments for antenatal care contributed to under-utilisation of antenatal care services (Shahabuddin et al 2017:75). Studies conducted in Ghana, Kenya and Malawi found out that some of the health facilities do not have supplies for equipment and drugs to be used during pregnancy (Pell, Menaca, Were, Afrah, Chatio, Manda-Taylor, Hamel, Hodgson, Tagbor, Kalilani, Ouma, & Pool 2013:49). The results of a study that was conducted in Kenya indicated that pregnant women were not able to access antenatal care service due to unavailability or limited health care facilities in their areas (Cheptum, Gitonga, Mutua, Mukui, Ndambuki & Koima 2014:49). In Nigeria, 25.5% of respondents did not attend antenatal clinic because lack of skilled health workers (Fagbamigbe & Idemudia 2015:36). It is important to ensure that more health professionals are trained to reduce shortage of skilled health professionals. It is also necessary to ensure that more health facilities are constructed and well equipped with equipment.

## **2.6.11 Cultural, traditional, spiritual beliefs and religion**

### ***2.6.11.1 Cultural beliefs***

*Collins English Dictionary* (2016:256) defined culture as the total of the inherited ideas, beliefs values and knowledge, which constitute the shared bases of social action. A study conducted in Nigeria has shown that utilisation of antenatal care is affected by socio-cultural factors. On cultural factors: the culture of shyness does not make pregnant women to turn up for antenatal care services because they do not feel comfortable when their private parts are examined. In addition, women regard suppressing pain until it is unbearable in high esteem and this makes them not to report for care (Ogundaino & Jegede 2016:1044). The understanding of the researcher is that culture and tradition of the people should be respected.

### **2.6.11.2 Traditional beliefs**

*Oxford South African Concise Dictionary* (2013:467), defined tradition as way of thinking, behaving or doing something that has been used by the people in a particular group. A study conducted in Ghana on assessing the effects of socio-cultural factors in maternal health care identified that availability of TBA's in the same locality with women have been observed to influence them on utilisation of antenatal care services (Feidiib 2017:4).

### **2.6.11.3 Spiritual beliefs and religion**

Houdmann 2012 dictionary (online), defines religion as a set of beliefs and rituals that claim to get a person in a right relationship with God, and spirituality is defined as a focus on spiritual things and the spiritual world instead of physical/earthly things. A study conducted in Bangladesh on exploring maternal health care seeking behaviour of married adolescent girls indicated that Muslim families did not want women to be seen by male health care providers therefore religion affects the utilisation of antenatal care services (Shahabuddin et al 2017:77). Spiritual beliefs aggravated the use of traditional and spiritual healers among pregnant women (Shahabuddin et al 2017:78). Furthermore, a study conducted in the Netherlands on factors affecting the use of prenatal care by non-western women in industrialised countries showed that adherence to religious practices were barriers which were associated with late prenatal care entry (Boerleider et al 2013:68).

## **2.8 CONCLUSION**

Key issues/findings from literature review are as follows:

- Age and marital status of a pregnant woman contribute to the utilization of antenatal care services in developing countries (Mulat, Kassaw & Aychiluhim 2015; Muhwava, Morojele & Londo 2016).
- Women's education levels, economic status and employment affect the utilization of antenatal care services (WHO, UNICEF, UNFPA, the World Bank and United Nations Population Division 2014; Rurangirwa et al 2017; Gitonga 2017).

- Parity, child care, permission to attend antenatal care, unplanned and unwanted pregnancy were identified as barriers to antenatal care utilization (Baruah et al 2016; Akinyemi et al 2016; Shahabuddin et al 2017; Deo et al 2015).
- Long distance to health facility and cost of health services, availability of health facilities and attitudes of staff at health facility limit access to antenatal services in rural areas than in urban areas (Nisar et al 2016; Andrew et al 2014; Chhetri 2015; Ayele et al 2014).
- Lack of transport to health facilities, traditional beliefs, cultural beliefs and spiritual beliefs and religion contribute to low or under-utilization of antenatal care services among pregnant women (Mason 2015; Feidiib 2017; Ogundaino & Jegede 2016; Boerleider et al 2013).

Chapter 3 focuses on research design and methodology.



## **CHAPTER 3**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 INTRODUCTION**

Outlined in this chapter are the research design and methodology. Moreover, methodology contains explanation of research, the choice, and the implementation of data collection methods. Sampling aspects of the study, data collection, data analysis, internal and external validity, and discussions of ethical considerations are also included in this chapter.

#### **3.2 RESEARCH DESIGN**

Sullivan (2012:8) refers to research study design as the methodology that is used to collect the information in order to address the research question. For this research study, quantitative, descriptive and cross sectional study designs were used.

##### **3.2.1 Quantitative research study design**

Quantitative research study design is a formal, objective, systematic process for obtaining quantifiable information about the world. It is used to quantify the problem by way of generating numerical data or data that can be transformed into a usable data. Quantitative study design is used to describe and to test relationships and is used to examine the cause-and-effect of relationships. It is used to quantify attitudes, opinions, behaviours and other defined variables and generalise results from a large sample population (Polit & Beck 2012:201).

##### **3.2.2 Descriptive study design**

Descriptive study generates hypotheses about associations between exposures and outcomes and is usually set out to describe characteristics of the group being investigated. The statistical goal is usually simple data description or estimation of a

characteristic in the study population (Burns et al 2014:237). In this study, barriers that prevent pregnant women from utilising antenatal care services in Omaheke Region are described.

### **3.2 Cross-sectional study design**

Cross sectional study design is a study design in which data are collected at one point in time, and is sometimes used to infer change over time when data are collected from different age or development groups (Polit & Beck 2012:725). Cross-sectional designs examine groups of subjects in various stages of development, trends, patterns and changes simultaneously with the intent to describe changes in the phenomenon across stages (Burns et al 2014:241). For this research study, barriers to utilisation of antenatal care services among pregnant women in Omaheke Region were compared between rural and urban respondents, level of education between junior primary and secondary level respondents and between single and married respondents.

### **3.3 RESEARCH METHOD**

Research method is the technique, which the researcher used to structure a study and to gather and analyse information relevant to the research question (Polit & Beck 2012:12).

#### **3.3.1 Sampling**

Sampling is a process of selecting subjects, events, behaviours, or elements for participation in a study (Burns et al 2014:135).

##### **3.3.1.1 Population**

Research population is the entire aggregation of cases in which a researcher is interested (Polit & Beck 2012:273). The target population is all women of child-bearing age, between 18 to 49 years old who visited Gobabis District Hospital in Omaheke Region for deliveries (full-term) or were kept for postnatal care purposes.

### **3.3.1.2 Sampling procedure**

Nonprobability sampling methods in quantitative studies are convenience, quota, purposive and consecutive. However, consecutive sampling was relevant to this study because it involves recruiting all of the people from an accessible population who meet the eligibility criteria over a specific time interval, or for a specified sample size (Polit & Beck 2012:278). Consecutive sample was selected for the prospective time focusing on women who visited Gobabis District Hospital for postnatal care purposes or were admitted with full-term pregnancy for labour.

#### **Inclusion criteria**

- Women of childbearing age between (18-49 years old) and from Omaheke Region.
- Women who are admitted in Gobabis District Hospital with full-term pregnancy.
- Women who are kept for postnatal care purposes.

#### **Exclusion criteria**

- Women of less than 18 years or older than 49 years.
- Women who are not from Omaheke Region.
- Women who are critically ill.
- Women who are unable to speak.
- Women who are admitted in maternity ward of Gobabis District Hospital with complications of pregnancy related conditions.

### **3.3.1.3 Ethical issues related to sampling**

Quantitative researchers need to pay attention to the participants needed to achieve statistical conclusion validity (Polit & Beck 2012:283). Respondents were fully informed about the procedure and risks involved in research study and signed consent to participate. Respondents were not coerced to participate in research to ensure voluntary participation.

Potential benefits to participants were access to a potentially beneficial intervention that might otherwise be unavailable to them. They were provided with an opportunity to discuss their situation or problem with a friendly, objective person. The discussion increased knowledge about themselves or their conditions through direct interaction with researcher and satisfaction that the information provided may help others with similar problems or conditions (Polit & Beck 2012:157).

#### **3.3.1.4 Sample**

A sample is a subset of the population that is selected for a particular study, and sampling defines the process for selecting a group of people, events, behaviours, or other elements with which to conduct a study (Burns et al 2014:142). In this study, women of child-bearing age between the ages of 18-49 years were selected. The sample size was estimated using Epi info calculator for 95% confidence interval.

A minimum sample size was calculated using a standard formula for known population size for a cross-sectional study. The formula is:

$$n = \frac{N}{[ (1+N (e)^2 )]}$$

Where n= sample size of adjusted population size and e=accepted level of taking alpha as 0.05

The total number of pregnant women delivered per month at Gobabis District Hospital was 150.

$$n = \frac{150}{[ (1+150 (0.05)^2)]}$$

N=110

Thus, 110 participants were required to be in the study. Population size is 150, degree of accuracy/margin error is 5% and 110 (sample size) respondents were required to be interviewed in the study due to limited resources and time.

### **3.3.2 Data collection**

#### ***3.3.2.1 Data collection approach and method***

A questionnaire was developed and used to collect quantitative data. The researcher asked questions from the questionnaire in order to get information that was required to answer the study objectives (Polit & Beck 2012:297).

#### ***3.3.2.2 Development and testing of the data collection instrument***

The researcher developed open- and closed-ended questions on a Likert scale, which focused on barriers to utilisation of antenatal care services in Omaheke Region. All questions were formulated in simple English and further explanation was given to the respondents to avoid ambiguity.

The respondents were women who visited Gobabis District Hospital with full-term pregnancy for labour or kept for postnatal care purposes. The questionnaire was pretested on 10 post-natal care mothers in Gobabis District Hospital who were included in the original study. The information assisted the researcher to validate if the questionnaire would collect the desired information and then restructured it based on the findings. The corrected questionnaire was used for data collection in the study. The researcher and five research assistants who were able to speak the local language assisted the respondents in completing the questionnaires. All research assistants were trained on how to administer the questionnaire in order to minimise variations and to ensure that there is reliability of findings.

#### ***3.3.2.3 Characteristics of the data collection instrument***

A questionnaire that included the Likert scale, open-ended questions and closed-ended questions was developed. The major topics included in the questionnaire were the following:

#### **3.3.2.3.1    *Respondents' personal characteristics***

The personal characteristics of respondents included age of the respondents, marital status, whether participant resided in urban or rural area, level of education, whether respondent or spouse is employed or not, respondent's tribe or ethnic group, level of education, number of deliveries a participant ever had and number of children who were alive.

#### **3.3.2.3.2    *Utilisation of antenatal care services***

The following information related to utilisation of antenatal care services was included in the questionnaire: attendance of antenatal care with previous pregnancies, permission to attend antenatal care clinics, the accompaniment of spouse to antenatal clinic and the benefits of attending antenatal care services that the woman had on her reproductive health. Women were further asked questions on what had influenced them to be pregnant, the gestational period on the first antenatal care visit, and the reasons for starting to attend at that period. In addition, some questions relating to problems with previous pregnancies, whether they were satisfied with the services offered at clinic regarding antenatal care and whether they knew the benefits of focused antenatal care services were asked.

#### **3.3.2.3.3    *Knowledge of women on antenatal care services***

On the knowledge about antenatal care services, women were asked where they have received information about the importance of utilising focused antenatal care services and the problems that prevented them from starting focused antenatal care services (Banda 2013:29-30).

#### **3.3.2.4    *Data collection process***

Data were collected by using a questionnaire which was a good technique for collecting quantitative data. The interviews were conducted in the local languages and in English. Both researcher and research assistants spoke the local languages. Prior to data collection, the research assistants were trained on how to take notes and record data. The researcher and the research assistants explained the purpose and all necessary

information related to the research study and then asked potential participants individually if they were willing to participate in this study. Those willing to participate were asked to sign a consent form. During the interview, participants were urged to ask questions when they were not sure of the questions and were asked to give honest answers. Data was collected from 01 June 2017 to 31 August 2017 from Gobabis District Hospital. The longest interview took 30 minutes.

### **3.3.2.5    *Ethical considerations related to data collection***

Ethics deal with matters of right and wrong and refer to a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social obligations to the study participants (Polit & Beck 2012:151). As this study involved an intrusion into the respondents' lives, the researcher maintained the ethical principles relating to protection of the rights of the institution, the participants and the research itself.

#### **Protecting the rights of the institution**

The ethical clearance certificate was obtained from The Department of Health Studies Higher Degrees Committee of the University of South Africa (Annexure A). Written permissions from the Office of the Permanent Secretary of the Ministry of Health and Social Services (Annexure B) and from the Office of the Senior Medical Officer of Gobabis District Hospital (Annexure C) were obtained before the questionnaires were issued on postnatal care women in Gobabis District Hospital.

#### **Protecting the rights of participants**

There are three basic ethical principles, among those generally accepted in cultural tradition, which are particularly relevant to medical ethics involving human subjects: They are as follows: autonomy, beneficence, non-maleficence, and justice.

#### **Autonomy**

*Cambridge English Dictionary* (2016:34) defined autonomy as the personal rule of the self that is free from both controlling interferences by others and from personal

limitations that prevent meaningful choice. This ethical principle concentrates on respect for human dignity, which includes the right, the self-determination and the right to disclosure. Self-determination means that prospective participants can voluntarily decide whether to take part in a study, without risk of prejudicial treatment, have the right to ask questions, to refuse to give information and to withdraw from the study. A person's right to self-determination includes freedom from coercion (Polit & Beck 2012:154).

Participants have the right to full disclosure. People's right to make informed, voluntary decisions about study participation requires full disclosure (Polit & Beck 2012:154). In this study, the researcher or research assistant has fully described the nature of the study, purpose of the study, explaining benefits and risks using simple terms that respondents understand. Respondents were given opportunity to ask questions for clarification before making decisions to participate in a study. All respondents participated voluntarily in the study without any coercion.

### **Beneficence and non-maleficence**

Polit and Beck (2012:720) defined beneficence as a fundamental ethical principle that seeks to maximise benefits for study participants and prevent harm. Beneficence imposes a duty on researchers to minimise harm and maximise benefits of the participants. Polit and Beck (2012:152) point out that in order to conduct research ethically, the research participant's right to freedom from harm and discomfort must be respected at all times. In this study, respondents were interviewed in a private room to avoid discomfort from being interviewed in public. The research participants' rights to protection from exploitation were respected by interviewing respondents within 30 minutes.

### **Justice**

The ethical principle of justice includes participants' right to fair treatment and their right to privacy (Polit & Beck 2012:155). One aspect of justice concerns the equitable distribution of benefits and burdens of research. Participant selection should be based on study requirements and not on a group's vulnerability. The fair treatment principle covers issues other than participant selection. The right to fair treatment means that



researchers treat people who decline to participate, or who withdraw from the study after initial agreement in a no prejudicial manner, and that they must honour the agreements made with participants (Polit & Beck 2012:155). In this research study, all women of child- bearing age between (18-49 years old) who visited Gobabis District Hospital in Omaheke Region for deliveries (full-term) or kept for postnatal care purposes were selected for the research study.

Participants' beliefs, culture and languages were respected at all times by collecting and recording all that they believe in accordance to their culture and traditions. The researcher and research assistants were able to speak English and the local languages. The researcher protected the rights of the participants to confidentiality, anonymity and privacy and obtained informed consent from them.

## **Privacy, confidentiality, anonymity and informed consent**

### ***Privacy***

Privacy is the individual's right to determine the time, extent and general circumstances under which personal information will be shared with or withheld from others (Burns et al 2014:194). Most of the research with humans involves intrusions into personal lives. Researchers should ensure that participants' privacy is maintained continuously. Participants have the right to expect that their personal information will be kept in strict confidence. The respondents' privacy was ensured by not disclosing their information to anyone. In this study, their beliefs, culture and languages were respected at all times by collecting and recording all that they believe in accordance to their culture and traditions which related to this study. Languages were considered because researcher and research assistants understood and talked all participants' local languages.

### ***Confidentiality***

According to Polit and Beck (2012:162) confidentiality is a pledge that any information provided by participants will not be publicly reported in a manner that identifies them, and will not be accessible to others. This means that research information should neither be shared with strangers nor with people known to participants, unless participants give explicit permission to do so. Confidentiality refers to the researcher not

sharing private information shared by a respondent unless it is with the consent of the respondent (Burns et al 2014:197). In this study, confidentiality was ensured by keeping all questionnaires in a lockable steel cabinet for safety and protection. Confidentiality was also ensured by not disclosing respondent's information to any other party without their consent.

### ***Anonymity***

Anonymity refers to the protection of participants' confidentiality such that even the researcher cannot link individuals with information provided (Burns et al 2014:202). Anonymity was ensured by using codes instead of respondents' names on the questionnaire.

### ***Informed consent***

According to Polit and Beck (2012:162), informed consent means that participants have adequate information about the research, comprehend that information, and have the ability to consent to or decline participation voluntarily (**Annexure G**). In this study, the purpose and significance of the study was clearly explained in the consent letter and was further explained verbally before the respondents were requested to sign the consent form.

### **3.3.3 Data analysis**

The Statistical Package for Social Sciences (SPSS) for windows version 7.0 was used for data analysis. The researcher prepared the data by checking for accuracy or login; entered data into the computer, transformed and developed a database structure that integrated the various measures and documenting information. The statistician assisted in analysing the data. Descriptive statistics were used to describe the basic features of the data in a study. The researcher provided simple summaries about the sample and presented the findings in bar graphs, tables and pie charts.

### **3.4 INTERNAL AND EXTERNAL VALIDITY OF THE STUDY**

#### **3.4.1 Internal validity**

Internal validity refers to the extent to which it is possible to make an inference that the independent variable, rather than another factor, is truly causing variation in the dependent variable (Polit & Beck 2012:244).

#### **Threats to internal validity**

Threats to internal validity are the extraneous factors that allow for alternative explanations as to what caused a given effect on the dependent variable. Threats to internal validity include temporal ambiguity, pre-existing group differences (selection), the occurrence of events external to an independent variable that could affect outcomes (history), changes resulting from the passage of time (maturation), effects of a pre-test (testing), and changes in the way data are gathered (instrumentation) (Polit & Beck 2012:244). Pretesting of the questionnaire was done using 10 respondents in order to identify problems with the data collection instrument, to minimise systematic and random sampling errors, and to find possible solutions.

#### **3.4.2 External validity**

External validity concerns the extent to which inferences can be made that relationships observed in a study hold true over variations in people, conditions, and settings, as well as over variations in treatments and outcomes (Polit & Beck 2012:250). External validity is also concerned with the extent to which study findings can be generalised beyond the sample used in the study (Burns et al 2014:225). External validity can be enhanced by selecting representative people, settings and through replication (Polit & Beck 2012:250). To enhance the external validity, the sample selected to be representative of a population was the right sample with experience on barriers to utilisation of antenatal care services in Omaheke Region and findings apply to that population.

### **Threats to external validity**

Threats to external validity can be described as ways in which relationships between variables might interact with or moderated by variations in people, settings, time and conditions (Polit & Beck 2012:251). In this study, 110 respondents between 18-49 years were sample selected for the study. The results of barriers to utilisation of antenatal care services among pregnant women in Omaheke Region can be generalised to all women of child-bearing ages in Omaheke Region, and not only to those who participated in the study.

### **3.5 CONCLUSION**

In this chapter, research design and methodology were discussed. Chapter 4 focuses on data analysis, interpretation of results and discussion of study findings.

## **CHAPTER 4**

### **DATA ANALYSIS, PRESENTATION OF RESULTS AND DESCRIPTIONS OF RESEARCH FINDINGS**

#### **4.1 INTRODUCTION**

In this chapter, the data management and analysis are discussed and the findings of the study are presented. The findings include the personal characteristics of the respondents participating in the study. Utilisation of antenatal care services and knowledge about antenatal care services by women of child-bearing ages between 18-49 years (respondents) in Omaheke Region were discussed. A questionnaire with open-ended and closed-ended questions was designed using a Likert scale to gather information. A total of 110 respondents took part in the study.

##### **4.1.1 Purpose of the study**

The purpose of the study was to determine the barriers to utilisation of antenatal care services among pregnant women in Omaheke Region - Namibia. In order to meet the purpose of the study, the following research objectives were formulated:

- To explore and describe the barriers to utilisation of antenatal care services in Omaheke Region.
- To suggest recommendations for improving utilisation of antenatal care services among pregnant women in Omaheke Region.

The following research question was formulated:

- What are the barriers to pregnant women utilising antenatal care services in Omaheke Region?

The questionnaire had three sections, which were:

- Section A: Personal characteristics of the respondents
- Section B: Knowledge about the antenatal care services utilisation
- Section C: Knowledge about antenatal care services

## **4.2 DATA MANAGEMENT AND ANALYSIS**

### **4.2.1 Data management**

The Statistical Package for Social Sciences (SPSS) for Epi info windows version 7.0 was used to analyse the data. The data was prepared by the researcher; checked or logged in data; checked for accuracy; entered data into the computer, transformed it, and a database structure was developed and documented that integrated the various measures.

### **4.2.2 Data analysis**

The statistician was recruited to assist in analysing the data. Descriptive statistics were used to describe the basic features of the data in the study. The researcher provided simple summaries about the sample and measures with simple graphic analysis such as bar graphs, tables and pie charts to simply describe the data.

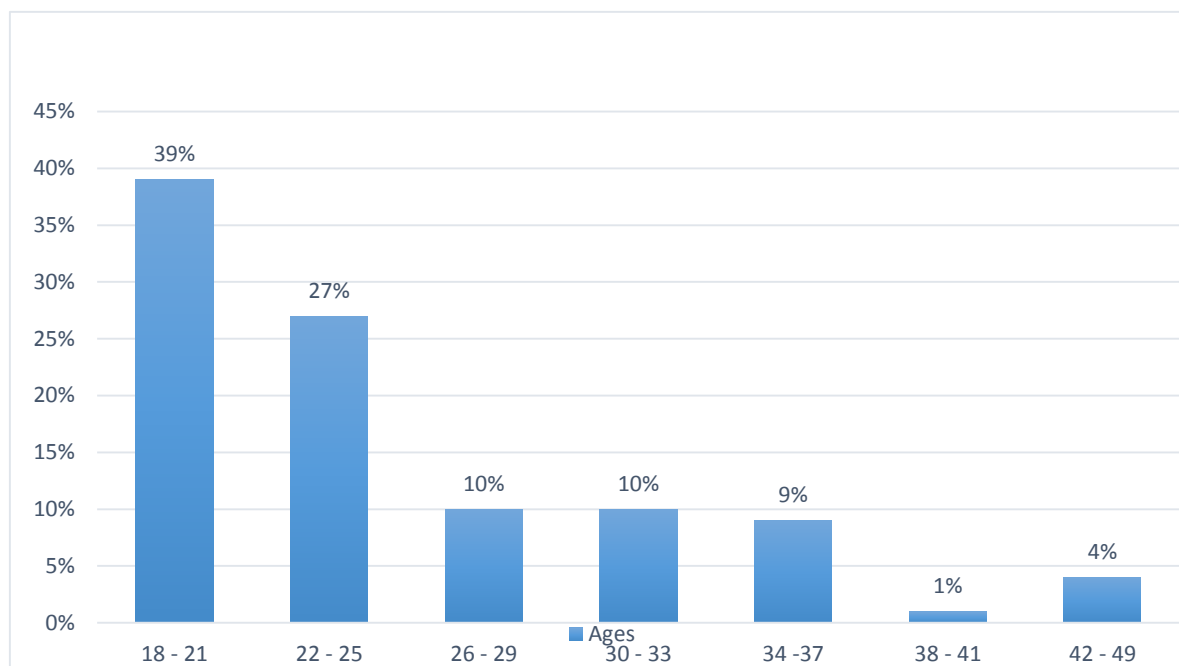
## **4.3 RESEARCH RESULTS**

### **4.3.1 Personal characteristics of the respondents**

The information presented in this section indicates the respondents' personal characteristics. This information was captured according to questions in Section A of the questionnaire. Personal characteristics include respondents' ages, marital status, residential areas, tribe or ethnic group, religion, level of education, what respondent does for a living, what husband/boyfriend does for a living, number of deliveries respondents had and number of children alive.

#### **4.3.1.1    *Ages of respondents***

Figure 4.1 depicts a summary of the age ranges of the respondents. Of all 110 respondents who participated in the study, 43 (39%) fell within the age range of 18-21 years, 30 (27%) within the range of 22-25 years, 11 (10%) within the age range of both 26-29, 11 (10%) within the age of 30-33 years respectively and 10 (9%) within the age range of 34-37 years. Only 1 (1%) of respondents fell within the age range of 38-41 years and 4 (4%) fell within the age range 42-49 years. The highest number of the respondents 43 (39%) were aged between 18-21 years. A study conducted in Kenya showed similar findings that women aged below 20 years were associated with the least uptake (31%) of focused antenatal care compared to women aged 30-34 years (63%) (Gitonga 2017:51).

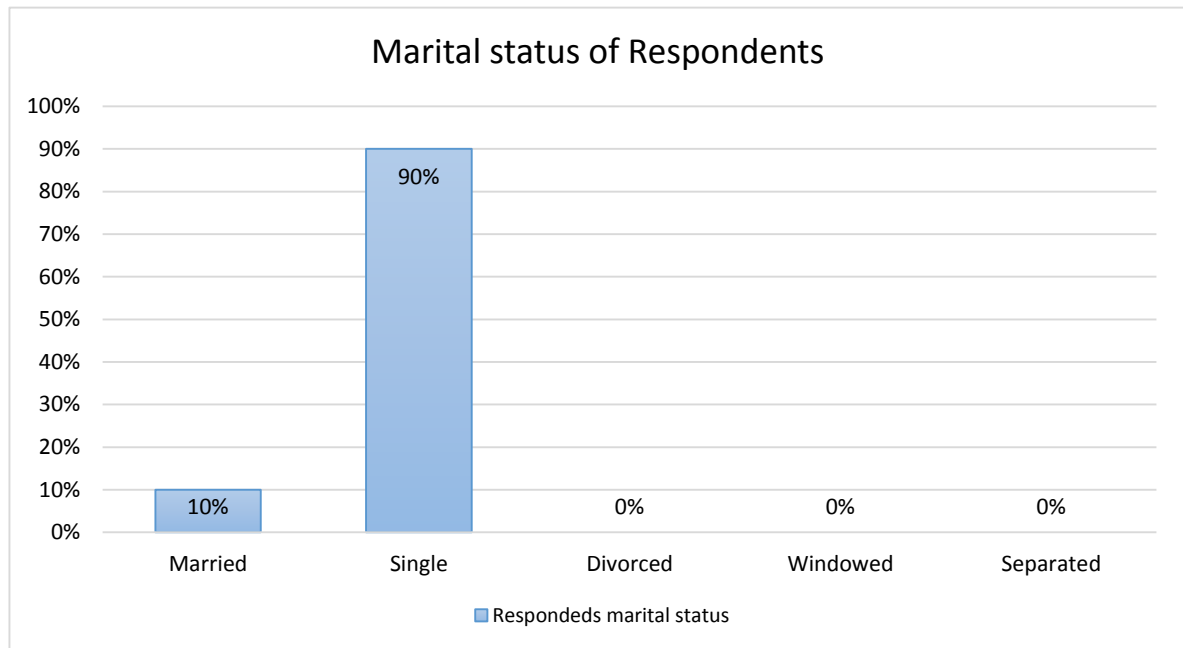


**Figure 4.1 Age ranges of respondents (N=110)**

#### **4.3.1.2    *Marital status of respondents***

Out of the 110 respondents, the majority of respondents 99 (90%) were single. A total of 11 (10%) respondents were married, and 0% who were not divorced, widowed or separated. A study conducted in South Africa on access to antenatal care services indicated that married women were more likely to adequately attend antenatal care visits as compared to unmarried women, although the association of it was non-

significant (Muhwava et al 2016:64). This study did not show similar results, that married women were more likely to attend antenatal care services.



**Figure 4.2: Marital status of respondents (N=110)**

#### ***4.3.1.3 Residential areas of respondents***

Out of the 110 respondents, 65 (59%) respondents were residents from rural areas while 45 (41%) respondents were residents from urban areas. A similar study which was conducted in South Africa on access to antenatal care services indicated that in urban areas, women who were employed were more likely to initiate antenatal care early compared to women who were unemployed while in rural areas (Muhwava et al 2016:65). In this research study, majority of rural women attend antenatal care services as indicated in Table 4.1.



**Table 4.1 Residential areas of respondents (N=110)**

Residence	Frequency	Percentage (%)
Urban	45	41%
Rural	65	59%

**4.3.1.4 Tribes or ethnic groups of respondents**

Out of 110 respondents, 39 (35%) belonged to Herero tribe/ethnic group and 35 (32%) were of Damara tribe/ethnic group. A total of 12 (11%) were San tribe/ethnic group, 7 (6%) were both Oshiwambo and Nama tribes/ethnic group respectively, 5 (5%) were Tswana tribe/ethnic group, 3 (3%) were Coloured tribe/ethnic group and 2 (2%) were Kavango tribe/ethnic group (Table 4.2).

**Table 4.2 Tribes or ethnic group of respondents (N=110)**

Variable	Frequency	Percentage (%)
Coloured	3	3%
Damara	35	32%
Herero	39	35%
Kavango	2	2%
Nama	7	6%
San	12	11%
Tswana	5	5%
Wambo	7	6%
<b>Total</b>	<b>110</b>	<b>100%</b>

**4.3.1.5 Religion**

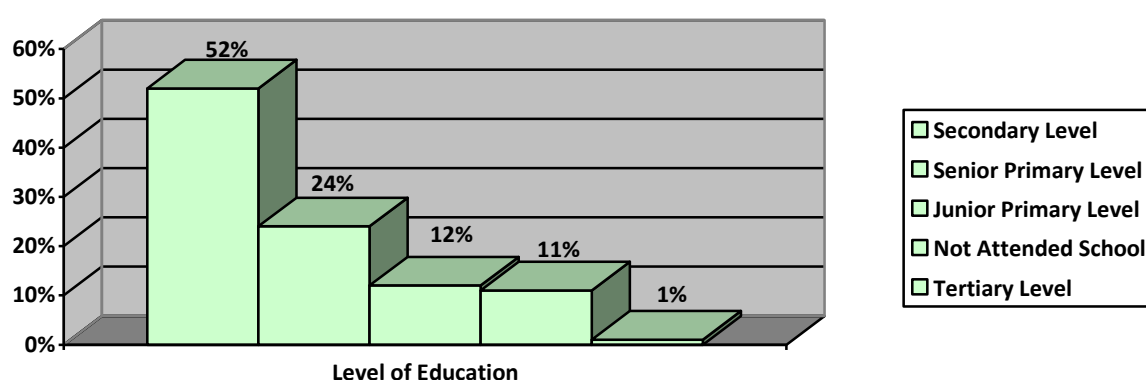
Table 4.3 shows that out of the 110 respondents, the majority 41 (37%) were of Catholic religion, 31 (28%) were of other religions, 23 (21%) were of Lutheran religion, 7 (6%) were of Oruano religion, 4 (4%) were Anglican and 4 (4%) with no religion. A study conducted in Bangladesh on exploring maternal health care seeking behaviour of married adolescent girls indicated that Muslim families did not want women to be seen by male health care providers and religion affected the utilisation of antenatal care services among Muslim faith (Shahabuddin et al 2017:76).

**Table 4.3 Religions of the respondents (N=110)**

Variable	Frequency	Percentage (%)
Anglican	4	4%
Catholic	41	37%
Lutheran	23	21%
No religion	4	4%
Oruuano	7	6%
Others	31	28%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### **4.3.1.6 Level of Education for respondents**

Figure 4.3 shows that out of the 110 respondents who answered the questions, (52%) respondents were at secondary level, 27 (24%) were at the senior primary level, (12%) were at junior primary level, 1 (11%) did not attend school and (1%) was at tertiary level. The highest percentage was respondents (52%) for secondary level. A study conducted in Nigeria on patterns and determinants of dropout from maternity care continuum found out that 63.8% of women with no formal education and 2.7% of those who attained higher education did not access antenatal care. Similar studies from developed countries found the barrier to antenatal care utilisation as less education among pregnant women (Deo et al 2015:241). The findings of this study shows the similar results of the two studies conducted on the level of education.



**Figure 4.3: Level of education of respondents (N=110)**

#### **4.3.1.7 What respondents do for a living**

Table 4.4 shows that out of 110 respondents, 61 (56%) were unemployed, 22 (20%) were fully employed, 12 (11%) were self-employed, 6 (5%) respondents were farming, other 6 (5%) were schooling and 3 (3%) were doing part-time jobs. The highest percentage was 56% unemployed. A study conducted in Kenya on determinants of focused antenatal care uptake among women indicated that women from households with higher income had a higher uptake of focused antenatal care than those from low-income households (Gitonga 2017:52). This study shows that more unemployed women were attending antenatal care services compared to fully employed women.

**Table 4.4 What respondents do for a living (N=110)**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
At school	6	5%
Farming	6	5%
Fully -employed	22	20%
Part-time job	3	3%
Self-employed	12	11%
Unemployed	61	56%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### **4.3.1.8 What husbands/boyfriends/parents do for a living**

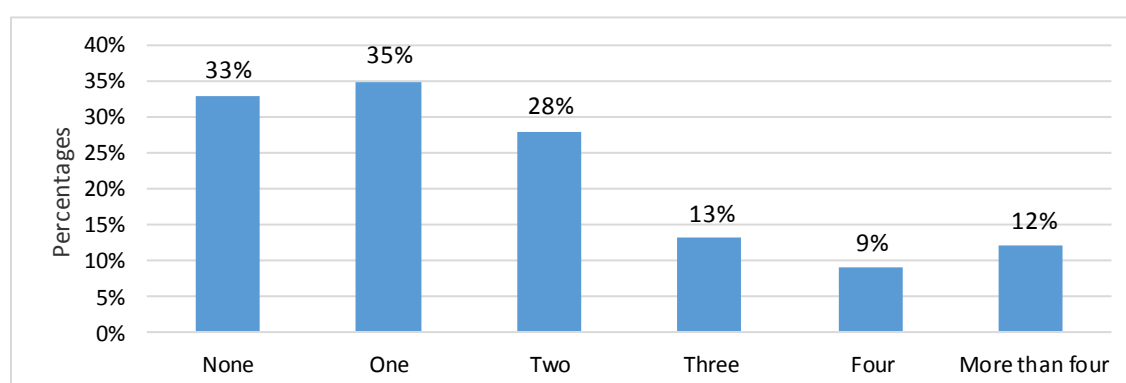
Table 4.5 shows that out of the 110 respondents, 65 (59%) respondents were fully employed, 23 (20%) were unemployed, 8 (7%) were schooling, 8 (8%) were farming, 5 (5%) were self-employed and 1 (1%) had a part-time job. Majority percentage of women (59%) reported that their husbands/boyfriends and parents were fully employed. A study conducted in Nigeria on the socio-economic factors that determine women's utilisation of health care services identified income or wealth index of the women as one of ten major factors influencing health services among pregnant women (Ugbor et al 2017:361). This study identified similar findings that fully employed families are influencing antenatal care services among pregnant women.

**Table 4.5** What husbands/boyfriends/parents do for a living (N=110)

Variables	Frequency	Percentage
At school	8	7%
Farming	8	8%
Fully employed	65	59%
Part-time job	1	1%
Self-employed	5	5%
Unemployed	23	20%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### 4.3.1.9 Number of deliveries respondents had

Figure 4.4 shows that out of 110 respondents, 39 (35%) had one delivery each, 31 (28%) were having two deliveries each, 14 (13%) were having three deliveries each, 13 (12%) were having more than four deliveries, and 3 (3%) respondents had no deliveries. Studies from developed countries have shown that parity and childcare are barriers to antenatal care utilisation (Deo et al 2015:196). A study conducted in the Netherlands on factors affecting the use of prenatal care by non-western women in industrialised countries, showed that multiparity was a barrier associated with late prenatal care entry (Boerleider et al 2013:66). This study shows that women with one birth/delivery are higher in percentage (35%) barriers of antenatal care services and are similar to the findings of the two studies conducted.

**Figure 4.4** Number of deliveries respondents had (N=110)

#### **4.3.1.10 Respondents' number of children alive**

Table 4.6 shows that out of 110 respondents, 40 (36%) respondents had one child, 31 (28%) had two children, 14 (13%) had three children, 13 (12%) had more than four children, 10 (9%) had four children, and 2 (2%) had no children. This study shows that 36% respondents had one child. A study conducted in Nigeria on patterns and determinants of dropout from maternity care continuum found out that non-use of antenatal care increased with birth order from 33.5% among the woman of first birth to 43.8% in those with 4 or more living children (Akinyemi et al 2016:282). A similar study conducted in Canada on barriers, motivators and facilitators related to prenatal care utilisation found out that childcare was one of the barriers (Heaman et al 2014:226).

**Table 4.6 Respondents' number of children alive (N=110)**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
None	2	2%
One	40	36%
Two	31	28%
Three	14	13%
Four	10	9%
More than four	13	12%
Total	110	100%

#### **4.3.2 Antenatal care services utilisation by participating mothers**

This section focuses on the discussing issues around antenatal care services in general and especially decisions related to whether the respondents had free will choice to start antenatal care services or not.

##### **4.3.2.1 Respondents who attended antenatal care services during previous pregnancy**

Table 4.7 shows that most of the respondents attended antenatal care services at some point during their previous or current pregnancy and first pregnancy. Out of 110 respondents, 72 (66%) respondents said “yes” that they attend antenatal care services at some point during their previous or current pregnancy, 31 (28%) respondents attended antenatal care services for their first pregnancies, and 7 (6%) respondents

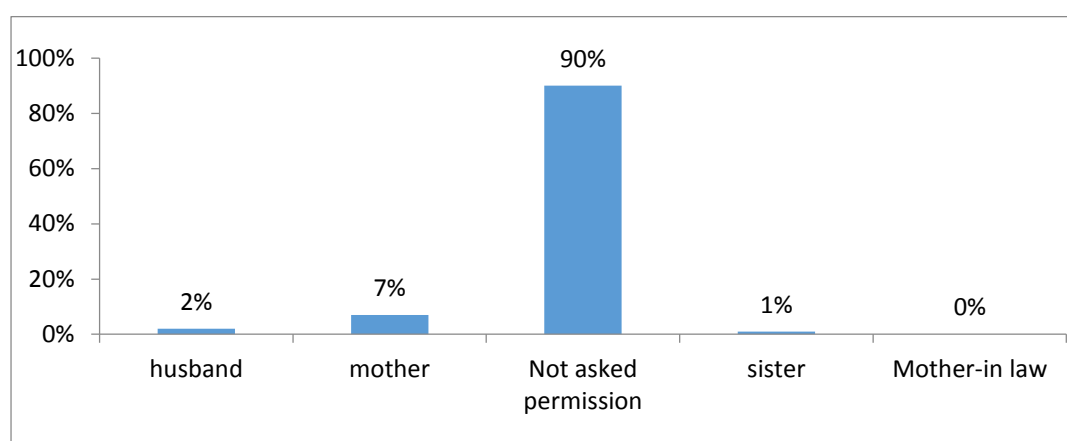
said “no” that they did not attend antenatal care services at some point during their previous or current pregnancies.

**Table 4.7 Respondents who attended antenatal care services during previous pregnancy (n=110)**

Variable	Frequency	Percentage (%)
First pregnancy	31	28%
No	7	6 %
Yes	72	66%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### **4.3.2.2 Source of permission by respondents to attend antenatal care services**

Out of 110 respondents, 99 (90%) respondents did not ask any permission from anybody to attend antenatal care, 8 (7%) respondents asked permission from their mothers, 2 (2%) respondents asked permission from husbands/boyfriends, 1 (1%) respondent asked permission from sister and 0 (0%) asked permission from mother-in law (Figure 4.5).

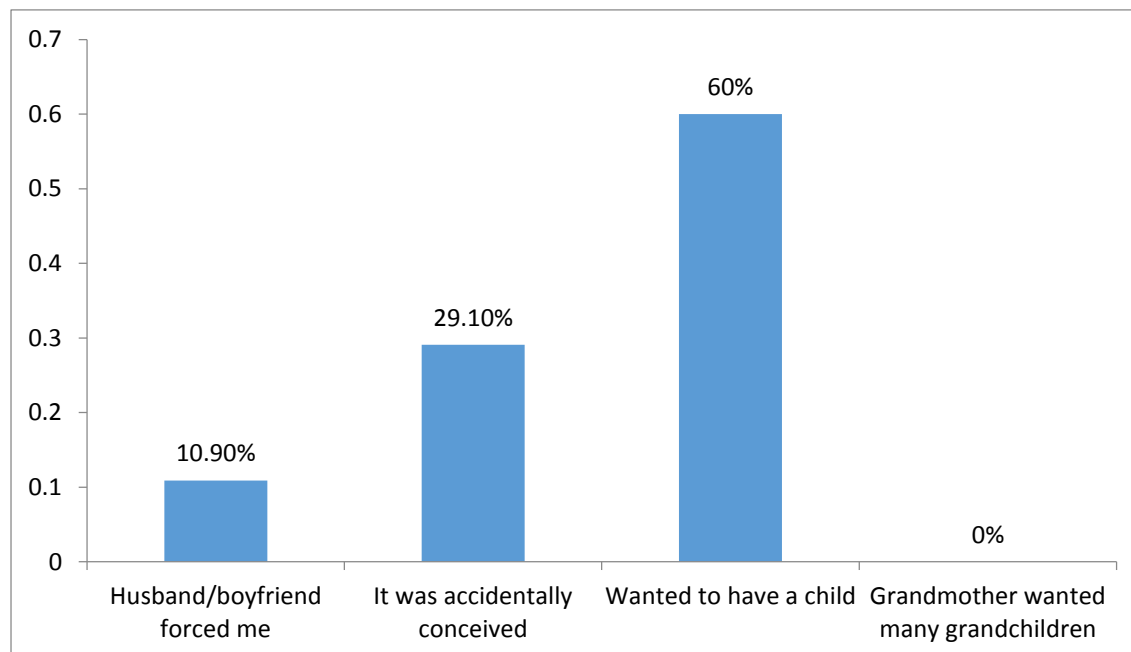


**Figure 4.5 Source of permission by respondents to attend antenatal care services (N=110)**

#### **4.3.2.3 Respondents influenced to be pregnant by someone or not**

Figure 4.6 shows that out of 110 respondents, 66 (60%) of respondents wanted to have a child, 32 (29%) respondents were accidentally conceived, 12 (11%) respondents were

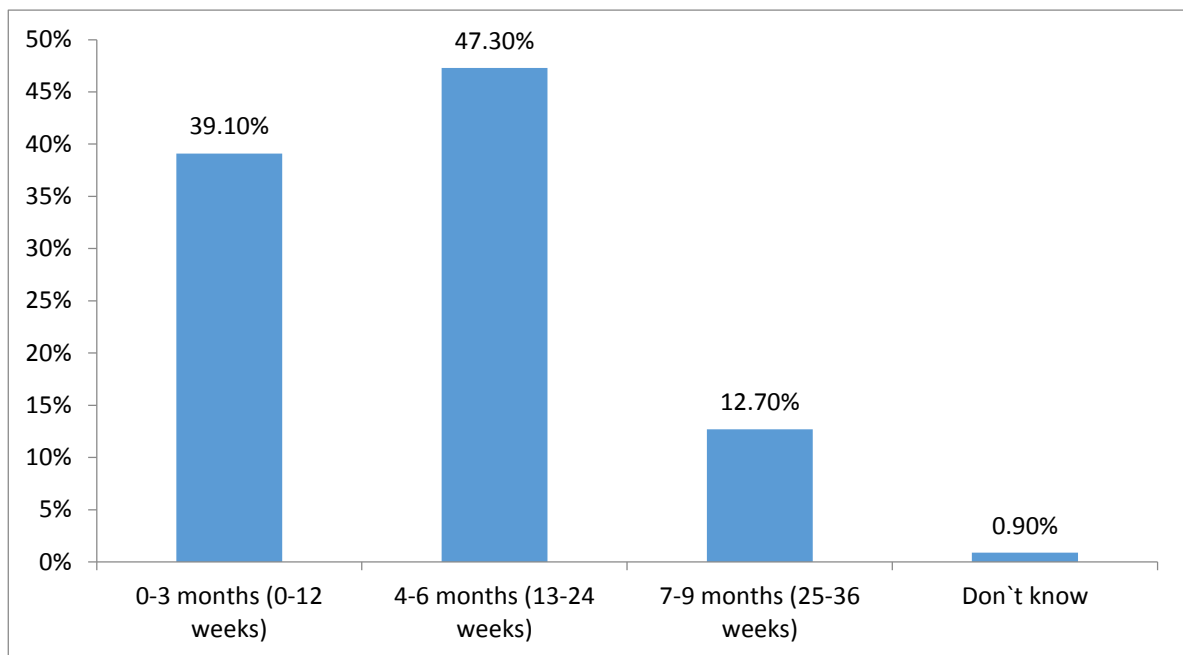
forced by their husbands/boyfriends to become pregnant and there was no grandmother who wanted many grandchildren, 0 (0%).



**Figure 4.6 Respondents influenced to be pregnant by someone or not (N=110)**

#### ***4.3.2.4 Month of pregnancy when a woman started antenatal care***

On the question related to the period of gestation at initiation of antenatal care services, 52 (47%) respondents reported starting antenatal care visits at 4 to 6 months (13-24 weeks) of pregnancy, 43 (39%) from 0-3 months (0-12 weeks) of pregnancy, 14 (13%) from 7-9 months (25-36 weeks) and only 1 (1 did not know) (Table 4.7).



**Figure 4.7 Month of pregnancy when a woman started antenatal care (N=110)**

#### ***4.3.2.5 Respondents who were accompanied by spouse to antenatal care clinics***

Table 4.8 shows that out of 110 respondents, 87 (79%) were not accompanied by their spouses to the antenatal care clinic while 23 (21%) respondents were accompanied by their spouses.

**Table 4.8 Respondents who were accompanied by spouse to antenatal care clinics (N=110)**

Variable	Frequency	Percentage (%)
Yes	23	21%
no	87	79%

#### ***4.3.2.6 Respondents' obstetric problems with previous pregnancies.***

Table 4.9 shows that out of 110 respondents, 102 (93%) respondents were not having obstetric problems during previous pregnancies while 8 (7%) were having obstetric problems with previous pregnancies.



**Table 4.9 Respondents' obstetric problems with previous pregnancies (N=110)**

Variable	Frequency	Percentage (%)
Yes	8	7%
No	102	93%

***4.3.2.7 Respondents with obstetric problems from previous pregnancies influencing antenatal care visits***

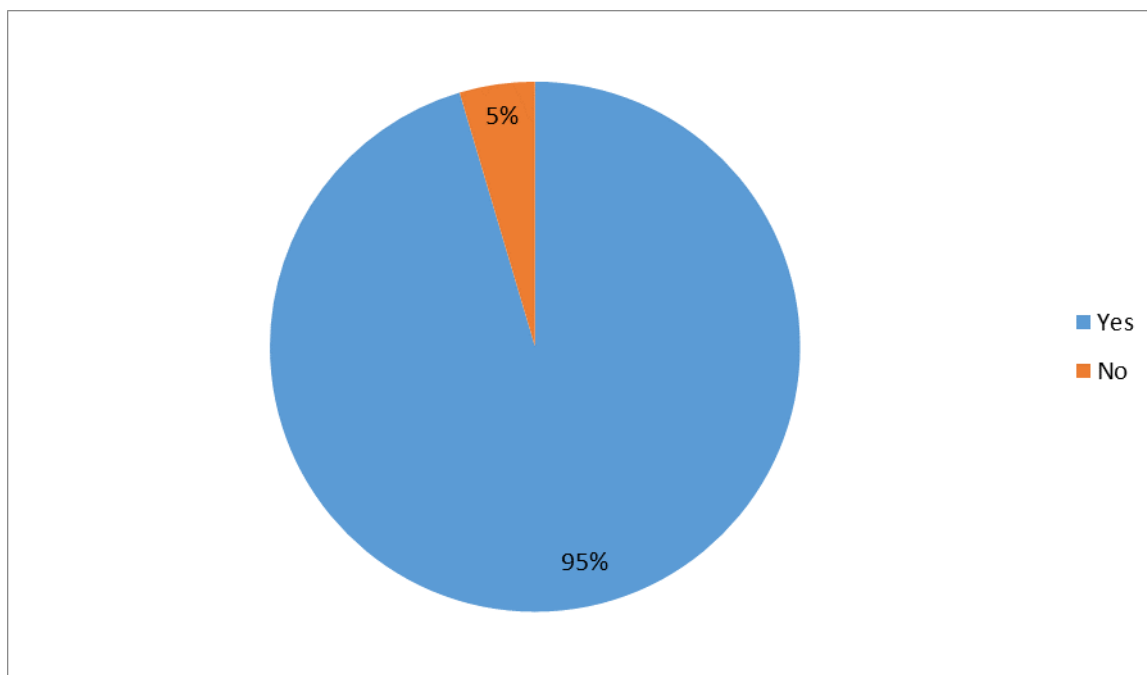
A total of 3 (3%) respondents were influenced by obstetric problems of previous pregnancies to attend antenatal care visits while 107 (97%) were not influenced by obstetric problems of previous pregnancies as indicated in Table 4.10.

**Table 4.10 Obstetric problems from previous pregnancies influencing antenatal care visits (N=110)**

Variable	Frequency	Percentage (%)
Yes	3	3%
No	107	97%
<b>Total</b>	<b>110</b>	<b>100%</b>

***4.3.2.8 Respondents satisfied with antenatal care services offered at antenatal care clinics***

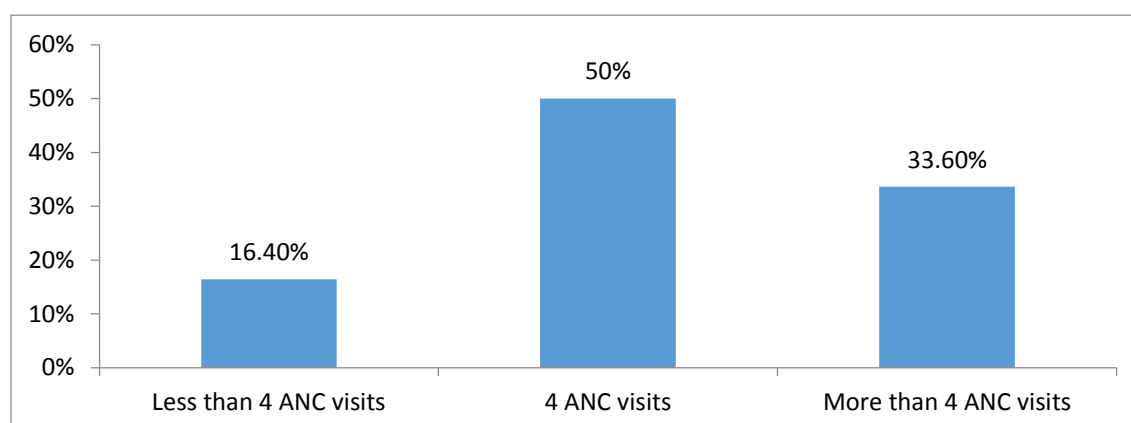
Out of 110 respondents, 105 (95%) were satisfied with antenatal care services offered at antenatal care clinics while 5 (5%) were not satisfied with antenatal care services offered at antenatal care clinics as indicated in Figure 4.8.



**Figure 4.8 Respondents satisfied with antenatal care services offered at antenatal care clinic (N=110)**

#### ***4.3.2.9 Number of antenatal care visits a pregnant woman is supposed to make during the whole pregnancy period when there is no problem***

Out of 110 respondents, 55 (50%) indicated that a number of antenatal care visits a pregnant woman was supposed to have during the whole period when there was no problem were 4, 37 (34%) indicated that the visits should be more than 4, 18 (16%) indicated that the antenatal visits should be less than 4 as indicated in Figure 4.9.



**Figure 4.9: Number of antenatal care visits a pregnant woman is supposed to make during the whole pregnancy period when there is no problem (N=110)**

#### **4.3.2.10 Benefits of antenatal care services.**

The information presented in this subsection indicates the benefits of antenatal care services among pregnant women in Omaheke Region. The benefits of the antenatal care services are highlighted as follows: Establishing rapport between a pregnant mother and an antenatal care provider; for early detection of risk conditions associated with pregnancy, assist the provider to give individualised health education on importance of antenatal care services and lastly, for the pregnant woman to receive preventive interventions.

##### **4.3.2.10.1 Establishing rapport between a pregnant mother and an antenatal care provider**

Out of 110 respondents, 100 (91%) respondents strongly agreed that establishing rapport between a pregnant mother and an antenatal care provider was the benefit of antenatal care services, 10 (9%) respondents agreed and 0 (0%) did not agree and not sure as indicated in Table 4.11.

**Table 4.11 Benefit of establishing rapport between a pregnant mother and an antenatal care provider (N=110)**

<b>Likert scale</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	100	91%
Agree	10	9%
Not agree	0	0%
Not sure	0	0%

##### **4.3.2.10.2 Early detection of risk conditions associated with pregnancy**

Table 4.12 shows that out of 110 respondents, 59 (54%) strongly agreed that early detection of risk conditions associated with pregnancy is a benefit of antenatal care, 51 (46%) agreed and 0 (0%) did not agree and are not sure.

**Table 4.12 Benefit of early detection of risk conditions associated with pregnancy (N=110)**

<b>Likert scale</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	59	54%
Agree	51	46%
Not agree	0	0%
Not sure	0	0%

*4.3.2.10.3 Assist the provider to give individualised health education on importance of antenatal care*

Table 4.13 shows that out of 110 respondents, 59 (54%) respondents strongly agreed that the provider can assist to give individualised health education on importance of antenatal care as a benefit of antenatal care, 51 (46%) respondents agreed and 0 (0%) did not agree and were not sure.

**Table 4.13 Benefit of assisting the provider to give individualised health education on importance of antenatal care (N=110)**

<b>Likert scale</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	59	54%
Agree	51	46%
Not agree	0	0%
Not sure	0	0%

*4.3.2.10.4: For pregnant woman to receive preventive interventions*

Table 4.14 shows that out of 110 respondents, 94 (85%) respondents strongly agreed that receiving preventive interventions is a benefit of antenatal care, 15 (14%) respondents agree and 1 (1%) did not agree and 0 (0%) were not sure.

**Table 4.14 Benefit for pregnant woman to receive preventive interventions (N=110)**

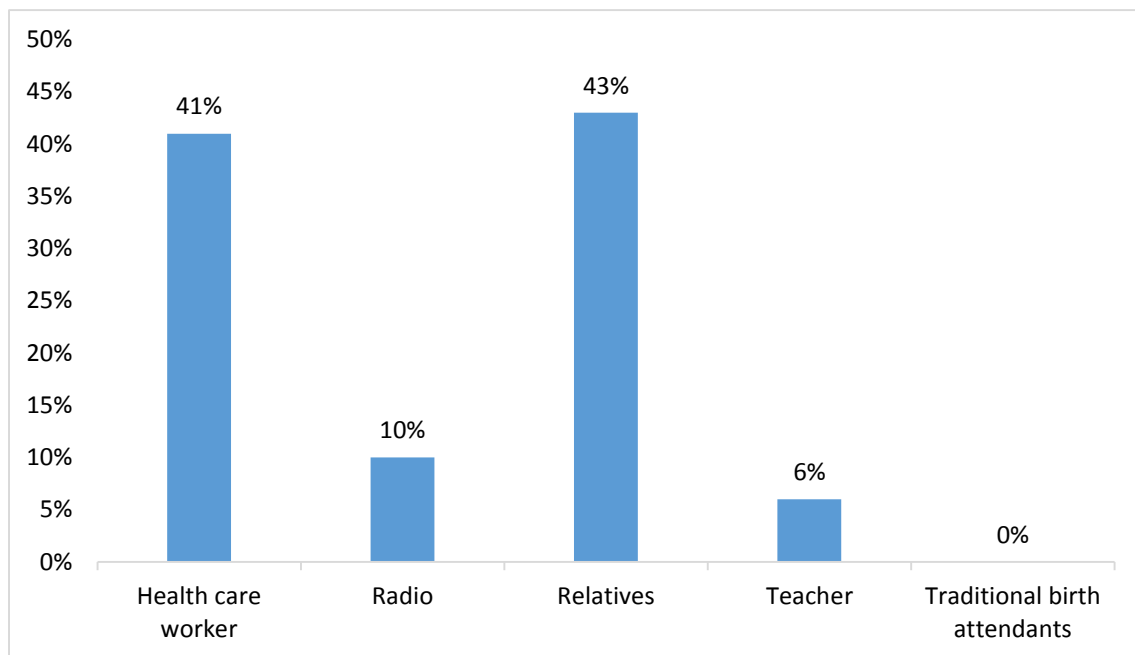
<b>Likert scale</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	94	85%
Agree	15	14%
Not agree	1	1%
Not sure	0	0%

### **4.3.3 Knowledge of participants on antenatal care services**

The study explored participating mothers' knowledge regarding utilisation of antenatal care services.

#### ***4.3.3.1 Sources of information about importance of utilising antenatal care services***

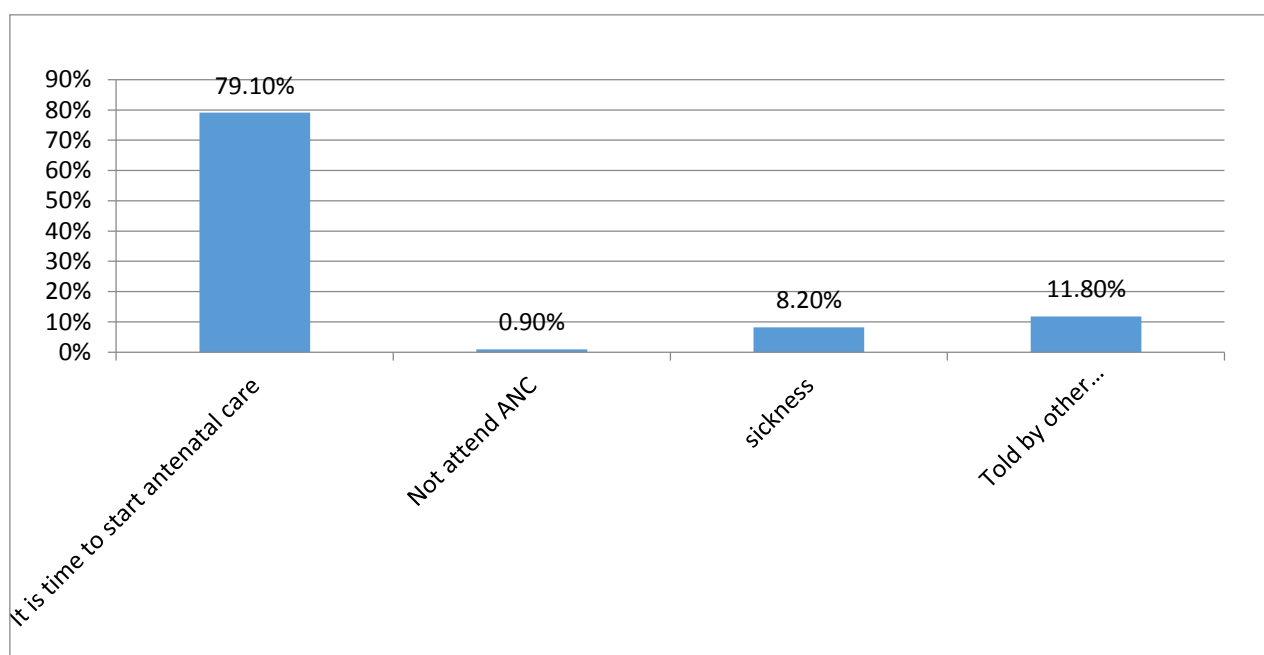
The study explored participating mothers' knowledge regarding utilisation of antenatal care services. Figure 4.11 shows that out of 110 respondents, 47 (43%) obtained information from their relatives, 45 (41%) obtained information from health care workers, 11 (10%) obtained information from radio broadcast, 7 (6%) respondents got information from teachers and 0 (0%) from traditional birth attendants.



**Figure 4.10: Sources of information about importance of utilising antenatal care services (N=110)**

#### ***4.3.3.2 Sources of information or encouragement that made women start utilising antenatal care services for the first time***

Figure 4.12 shows that out of 110 respondents, 87 (79%) respondents said that it was time to start antenatal care, 13 (12%) respondents were told by others such as friends, relatives or neighbours, 9 (8%) respondents attended due to sickness, 1 (1%) did not attend antenatal care services, and 0 (0%) for previous pregnancy complications and previous foetal loss.



**Figure 4.11 Sources of information or encouragement that made women to start utilising antenatal care services for the first time (N=110)**

#### ***4.3.3.3 Problems encountered by respondents during seeking antenatal care services***

Some problems, which were encountered by respondents when they wanted to start antenatal care, are discussed in this section and they are as follows: transport money, long distance, desirability, perception of being a low risk, waiting to get permission to start antenatal care clinic, concern that there may not be a midwife and limited transportation options.

##### ***4.3.3.3.1 Transport money***

A total of 48 (44%) respondents were having problems with transport money and 62 (56%) were not having problems with transport money as indicated on Table 4.15. In a qualitative study conducted in Kenya on barriers and facilitators to antenatal and delivery care observed unpredictable labour and transport as some of the barriers (Mason et al 2015:16). The same study conducted in Indonesia indicated that women who accessed antenatal care services by walking were more likely to receive less than four antenatal visits compared to women who used transport (Agus et al 2012:588). This study had similar findings of transport money as the barrier to utilisation of antenatal care services.

**Table 4.15 Respondents with transport money problem during antenatal care (N=110)**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage %</b>
A problem	48	44%
Not a problem	62	56%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### *4.3.3.3.2 Long distance*

A total of 49 (45%) respondents were having problems with long distances to reach health facilities and 61 (55%) were not having problems as indicated in Table 4.16. A study conducted in Bangladesh on exploring maternal health care-seeking behaviour of married adolescent girls indicated that accessibility due to long distance to health facility and cost of health services influenced pregnant women not to utilise antenatal care services (Shahabuddin et al 2017:75). Furthermore, a study conducted in Uganda indicated that health facilities were sometimes located a long distance away from residential areas which discouraged pregnant mothers from attending antenatal care services (Okutu 2015:15). In addition, a study conducted in Ghana on assessing the effects of socio-cultural factors in maternal health care identified that long distance to health facilities, was one of the contributing factors (Feidiib 2017:4). This study had a similar barrier of long distance to health facilities.

**Table 4.16 Respondents with long distance problem during antenatal care (N=110)**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage %</b>
A problem	49	45%
Not a problem	61	55%
<b>Total</b>	<b>110</b>	<b>100%</b>



#### 4.3.3.3.3 *Desirability*

Out of 110 respondents, 5 (5%) respondents were having problems with desirability to utilise antenatal care services and 105 (95%) were not having problems with desirability to utilise antenatal care services.

**Table 4.17 Respondents with desirability problem in utilising antenatal care services during antenatal care (N=110)**

Variable	Frequency	Percentage %
A problem	5	5%
Not a problem	105	95%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### 4.3.3.3.4 *Perception of being a low risk*

Out of 110 respondents, 1 (1%) responded that she was having perception of being a low risk and 109 (99%) responded that they were not having perception of being a low risk.

**Table 4.18 Respondents who were having perception of being a low risk (N=110)**

Variable	Frequency	Percentage %
A problem	1	1%
Not a problem	109	99%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### 4.3.3.3.5 *Waiting to get permission to start visiting antenatal care clinics*

No respondents had problems with waiting to get permission to start antenatal care clinics. A study conducted in Bangladesh on exploring maternal health care-seeking behaviour of married adolescent girls indicated that decisions regarding the use of antenatal care services were influenced by different family members, including husbands, parents-in-laws especially mothers-in law, girls' parents and senior relatives (Shahabuddin et al 2017:76). A similar qualitative study conducted in Pakistan on health care seeking behaviours in pregnancy in rural Sindh, revealed that husbands and mothers-in-law were the most important decision makers in giving women permission

regarding health care utilisation (Qureshi et al 2016:78). This study found a similar barrier of seeking permission to start antenatal care clinics.

**Table 4.19 Respondents who were waiting to get permission to start antenatal care clinics (N=110)**

Variable	Frequency	Percentage %
A problem	0	0%
Not a problem	110	100%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### *4.3.3.3.6: Concern of unavailability of a midwife*

One 1 (1%) respondent had a concern that there may not be a midwife at antenatal care clinic and 109 (99%) responded that they were not having problems. A study conducted in Nigeria indicated that 25.5% of respondents did not attend antenatal clinic due to lack of skilled health workers (Fagbamigbe & Idemudia 2015:36). This study shows that only 1% respondent had a concern that there may not be a midwife at antenatal care clinic which is really not significant as a barrier to utilisation of antenatal care services.

**Table 4.20 Respondents with concern of unavailability of a midwife at antenatal care clinic (N=110)**

Variable	Frequency	Percentage %
A problem	1	1%
Not a problem	109	99%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### *4.3.3.3.7 Respondents with limited transportation options*

Out of 110 respondents, 6 (5%) respondents were having problems with limited transportation options and 104 (95%) were not having problems. A study conducted in Ghana on assessing the effects of socio-cultural factors in maternal health care identified lack of proper means of transport as one of the contributing factors (Feidiib 2017:4). A similar study conducted in South Sudan indicated that lack of commercial or private means of transport contributed to the inaccessibility of antenatal care services (Wilunda et al 2017:44). A qualitative study conducted in Pakistan revealed that there

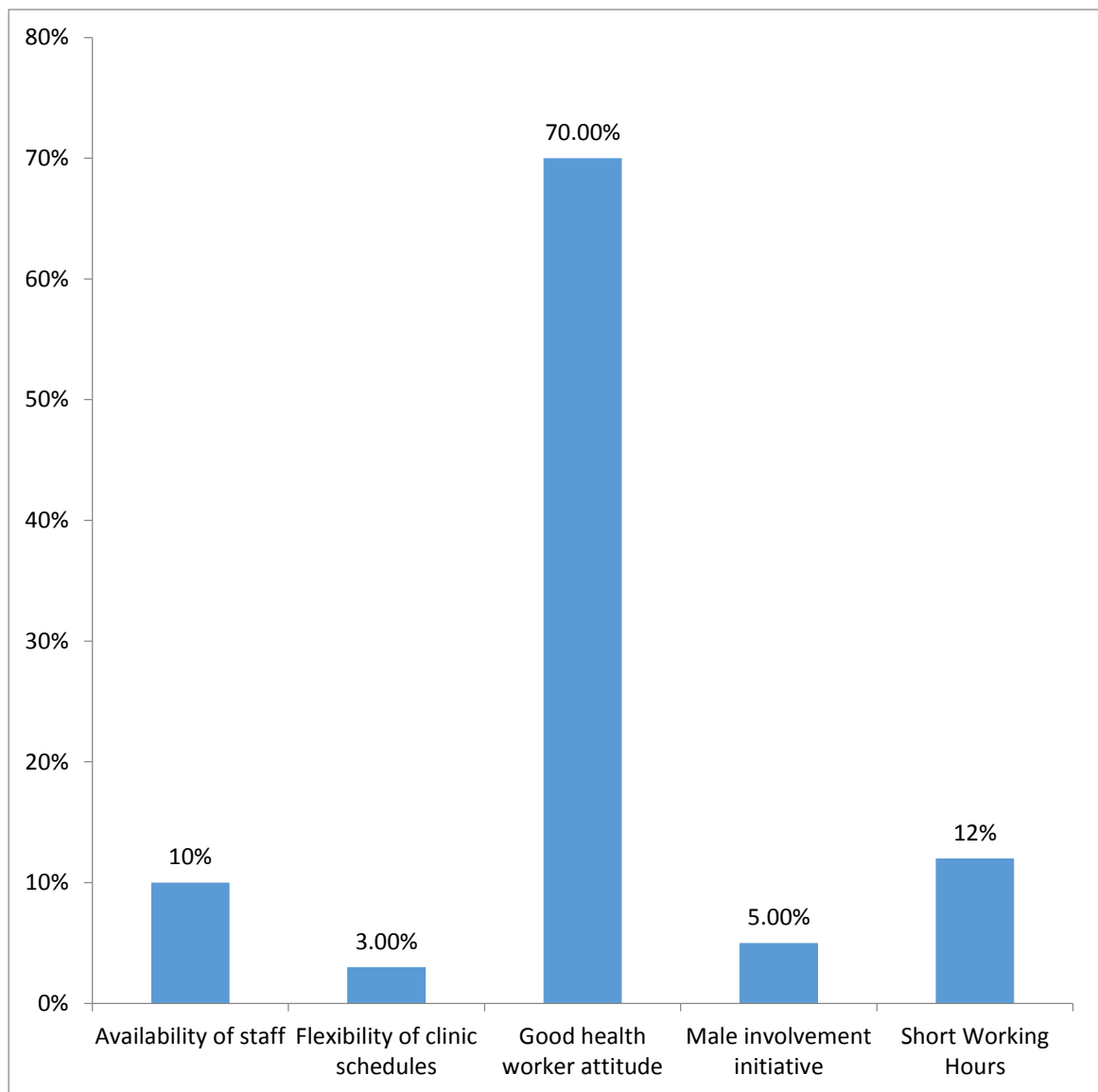
was poor availability of transport as a barrier to health care utilisation (Qureshi et al 2016:80). This study shows the result of limited transportation options as a barrier to the utilisation of antenatal care services.

**Table 4.21 Respondents with limited transportation options (N=110)**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage %</b>
A problem	6	5%
Not a problem	104	95%
<b>Total</b>	<b>110</b>	<b>100%</b>

#### ***4.3.3.4 What respondents like most about antenatal care services at the facility***

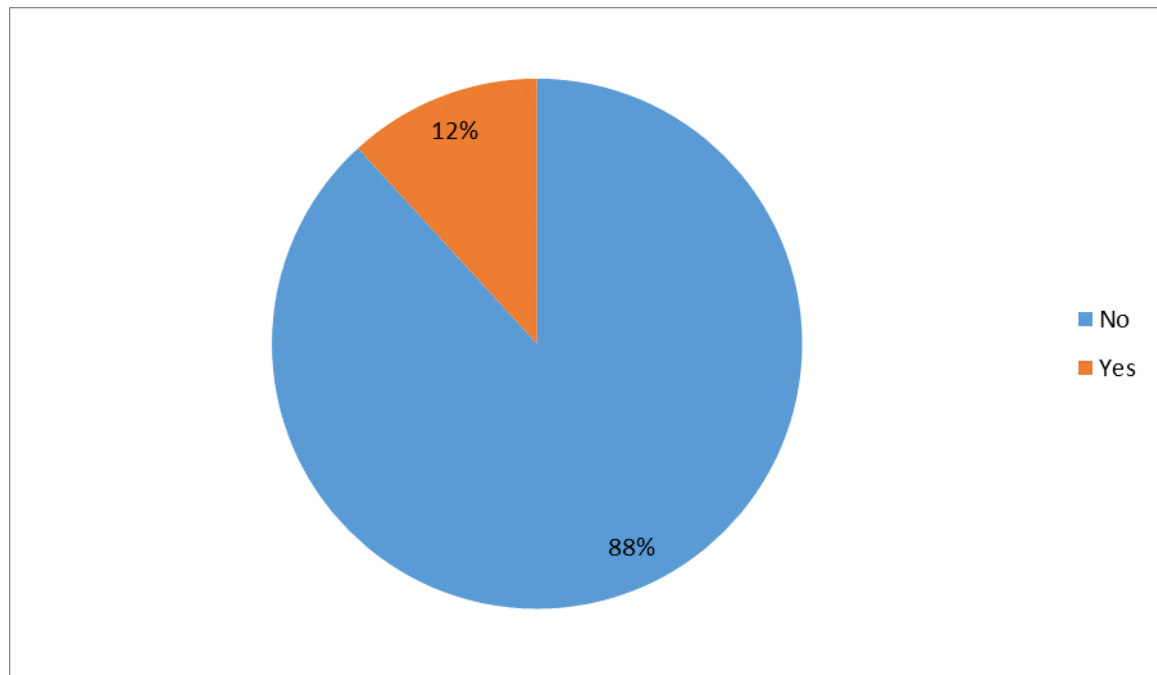
A total of 78 (70%) respondents liked the good health worker attitude the most with reference to antenatal care services at the facility. A total of 13 (12%) mostly liked the short waiting hours, 11 (10%) mostly liked the availability of staff, 5 (5%) mostly liked the male involvement initiative and (3%) mostly liked the flexibility of clinic schedules at the facility (Figure 4.12).



**Figure 4.12 What respondents like most about antenatal care services at the facility (N=110)**

#### ***4.3.3.5 Respondents paying for services in order to start antenatal care clinics***

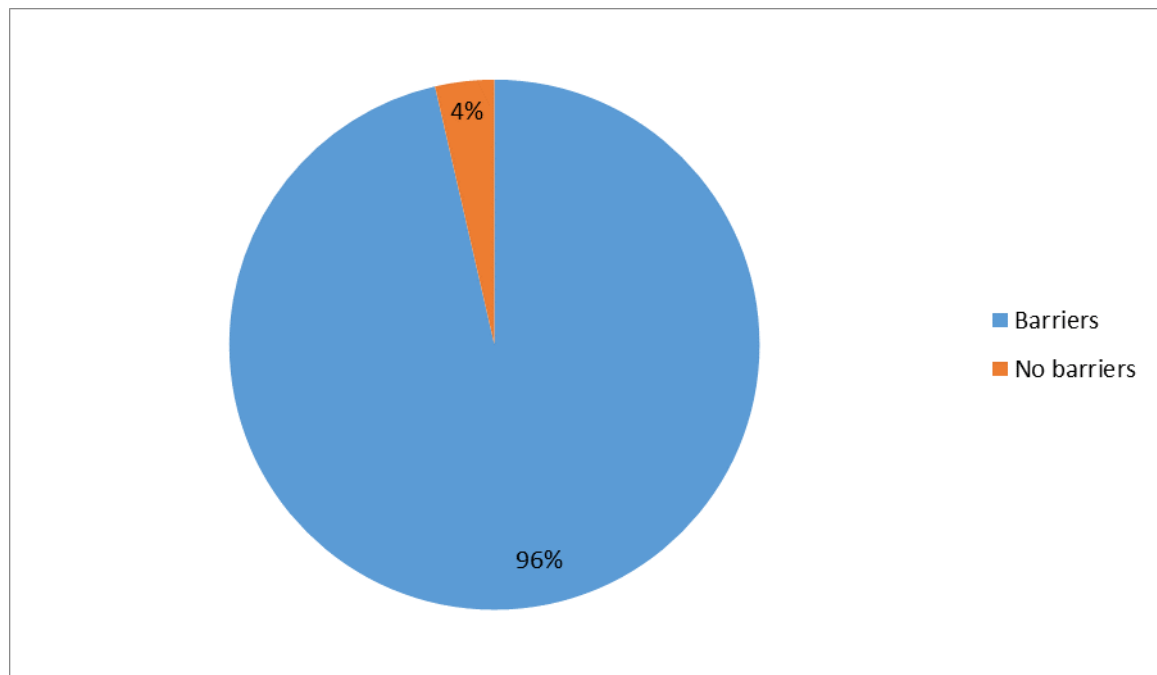
Out of 110 respondents 97 (88%) did not pay to start antenatal care clinics and 13 (12%) paid in order to start antenatal care clinics (Figure 4.13). Chiang et al (2013:227) observed distance and paying for health services as barriers to the use of basic health services. A study conducted in Nigeria identified that utilisation of antenatal care was subjected to socio-cultural factors which included the affordability of health services (Ogundaino & Jegede 2016:1043). The researcher`s understanding is that pregnant women are not expected to pay for antenatal care services in Ministry of Health and Social Services in Namibia.



**Figure 4.13 Respondents paying for services in order to start antenatal care clinics (N=110)**

#### ***4.3.3.6 Barriers or pregnancy related traditional beliefs that prevent pregnant women from starting antenatal care in the first trimester***

Out of 110 respondents, 106 (96%) responded that they had no barriers or pregnancy related traditional beliefs that prevented pregnant women from starting antenatal care in the first trimester and 4 (4%) respondents had barriers or pregnancy related traditional beliefs (Figure 4.14). A study conducted in Nigeria has shown that utilisation of antenatal care was subjected to socio-cultural factors. On cultural factors: the culture of shyness did not make pregnant women turn up for antenatal care services because they did not feel comfortable when their private parts are examined. In addition, women regarded suppressing pain until it was unbearable in high esteem and this made them not to report for care (Ogundaino & Jegede 2016:1044). This study had similar results for cultural beliefs as a barrier to the utilisation of antenatal care services.



**Figure 4.14 Barriers or pregnancy related traditional beliefs that prevent pregnant women from starting antenatal care in the first trimester (N=110)**

#### **4.4 OVERVIEW OF THE RESEARCH FINDINGS**

The study sought to explore and describe the barriers to utilisation of antenatal care services in Omaheke Region - Namibia. Most of the respondents interviewed had attended antenatal care services before, and were knowledgeable and experienced on some of the barriers at health facilities and in the community in the region.

Respondents with ages ranging from 18-21 years were majority in utilising antenatal services. Majority of single mothers were attending antenatal care services compared to married mothers. Urban mothers were majority in utilising antenatal care services and Catholic religion respondents were majority in utilising antenatal care services. Respondents with no education were very few in utilising antenatal care services. Majority of respondents were unemployed while their husband/boyfriend were employed. In addition, majority of respondents had one delivery and a child alive.

The respondents were interviewed on barriers to utilisation of antenatal care services among pregnant women. Women indicated that they had problems with seeking permission from someone to attend antenatal care clinic and when a spouse did not accompany them to the clinic. In addition, unplanned or unwanted pregnancy,

unfavourable experiences of negative attitudes with health workers, lack of knowledge about the number of antenatal care visits a pregnant woman was supposed to attend and lack of knowledge about the benefits of antenatal care were some of the challenges experienced by women. The respondents indicated that they had a problem of getting information about importance of utilising antenatal care services from healthcare workers.

When pregnant women wanted to start antenatal care services, the following parameters were problems for them: transport money, long distance, desirability, perception of being a low risk, waiting to get permission to start antenatal care services and limited transportation options. Pregnant women further indicated that they liked good health worker attitude, short waiting hours, flexibility of clinic schedules, availability of staff and male involvement initiatives. Payment of antenatal services and pregnancy related traditional beliefs were preventing pregnant women from starting antenatal care in the first trimester.

#### **4.5 CONCLUSION**

In this chapter, data analysis, presentation of results and description of the research findings were discussed. Chapter 5 focuses on conclusions and recommendations.

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

This chapter presents research design and the method, the summary and interpretation of the research findings, conclusions, limitations of the study and recommendations in relation to the research objectives. The results are discussed in line with the research objectives as presented in chapter 4.

The research objectives are:

- To explore and describe the barriers to utilisation of antenatal care services in Omaheke Region.
- To suggest recommendations for improving utilisation of antenatal care services among pregnant women in Omaheke Region.

Research question is:

What are the barriers to pregnant women utilising antenatal care services in Omaheke Region?

#### **5.2 RESEARCH DESIGN AND METHOD**

Sullivan (2012:8) refers to research (study) design as the methodology that is used to collect the information in order to address the research question. For this research study, descriptive and cross sectional study designs were used. Descriptive study is usually set out to describe characteristics of the group being investigated, and the statistical goal is usually simple data description or estimation of a characteristic in the study population (Burns et al 2014:237). In this study, characteristics and barriers that prevent pregnant women from utilising antenatal care services in Omaheke Region were described. Cross-sectional designs examine groups of subjects in various stages



of development, trends, patterns and changes simultaneously with the intent to describe changes in the phenomenon across stages (Burns et al 2014:241). For this research study, barriers to utilisation of antenatal care services among pregnant women in Omaheke Region could be compared between rural and urban, educated and uneducated pregnant women etc. during analysis.

Research method is the technique, which the researcher uses to structure a study and to gather and analyse information relevant to the research question (Polit & Beck 2012:12). Quantitative research was selected because it is a formal, objective, systematic process in which numerical data are used to describe variables, examine relationships among variables, and determines cause-and-effect interaction between variables (Burns et al 2014:222). The target population was all women of child-bearing age between 18 to 49 years old who visited Gobabis District Hospital in Omaheke Region for deliveries (full-term) or were kept for postnatal care purposes. A questionnaire was used to collect data, which was analysed using SPSS version 7.0. Data was presented in tables and figures.

### **5.3 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS**

#### **5.3.1 Personal characteristics of the respondents**

Of all the respondents who participated in the study, some of their personal characteristics were as follows:

##### **Age**

The study indicated that the respondents were between 18-49 years. Majority of the respondents who fell pregnant and attended antenatal care services, fell within the age range of 18-21 years (39%) and within the range of 22-25 years (27%). The wide age range means that if continuous information was given to pregnant women about the importance of antenatal care services, more women would start utilising antenatal care services.

## **Marital status**

Majority (90%) of the respondents in the current study were single and 10% of the respondents were married. Marital status was one of the contributing factors to the low utilisation of antenatal care services. In the current study, more single women became pregnant and utilised antenatal care services compared to married ones.

## **Rural-urban residence**

The study shows that 59% respondents were residents from rural area while 41% were residents from urban areas. Many studies conducted in developing countries demonstrated that women residing in urban areas were utilising antenatal care services compared to women from rural areas. However, in the current study more women from rural areas were utilising antenatal care services in Omaheke Region compared to women from urban areas.

## **Tribes or ethnic groups**

Majority (35%) of the respondents were from Herero tribe/ethnic group, (32%) were from Damara tribe/ethnic group, and (11%) were from the San tribe/ethnic group. These results showed that majority of the tribe/ethnic groups who resided in Omaheke Region were the Herero, Damara and San tribe/ethnic group.

## **Religion**

The present study demonstrated that majority of the respondents (37%) were of the Catholic religion, (28%) were with other religions and (21%) were of the Lutheran religion. This information will help health workers to know if the woman's religion is unusual; if a midwife is not familiar with it or suspects that there are certain restrictions within the religion such as restrictions of blood transfusion or if the women are not encouraged to receive medical attention (Sellers 2013:184).

## **Level of education**

Just above half (52%) of the respondents were at secondary level, 25% were at the senior primary level and one respondent was at tertiary level. Respondents with the tertiary level were the least in utilising antenatal care services at public health facilities, which meant that majority of the women with tertiary level of education, were not delivering their babies at Gobabis District Hospital and were not utilising antenatal care services at public health facilities.

## **What respondents do for a living?**

The present study has demonstrated that 56% of the participating mothers were unemployed and 20% were fully employed. Many studies conducted in African countries demonstrated that majority of the women with poor, low income or with no income were utilising antenatal care services compared to rich women, with high income. However, this present study showed that unemployed women were majority in utilising antenatal care services compared to employed women.

## **What husbands/boyfriends/parents do for a living?**

Majority (65%) of women reported that their husbands/boyfriends and parents were fully employed. This meant that economic status of the partners/parents had an influence on the utilisation of the antenatal care services.

## **Number of deliveries respondents had**

The study results indicated that majority (35%) of the respondents had one delivery each, 28% were having two deliveries each, and 13% were having three deliveries each. This was an indication that the number of deliveries had an influence on the utilisation of antenatal care services among pregnant women.

## **Respondents' number of children alive**

The current study (Table 4.6) demonstrated that majority (36%) of the respondents had one child and 28% had two children. This meant that most of the women with one alive

child were those with age range between 18-21years. Many studies conducted on the barriers of utilisation of antenatal care services indicated that women under the age of 20 years, and who had one live child, were likely to attend antenatal care services than women of more than 20 years and with more than one child.

### **5.3.2 Antenatal care services utilisation by participating mothers (respondents)**

The study demonstrated that almost all the respondents attended antenatal care services at some point during their previous or current pregnancies followed by respondents with the first pregnancies. Table 4.7 shows that most of the respondents attended antenatal care services.

#### **Seeking permission to attend antenatal care services**

The study also showed that participating mothers sought permission to attend antenatal care services. Figure 4.5 shows that almost all the respondents did not ask any permission to attend antenatal care services, while few asked permission from mothers, husbands/boyfriends and 1 (1%) from a sister. Seeking permission from someone towards antenatal care attendance had little impact on low utilisation of antenatal care services among pregnant women.

#### **What influenced women to fall pregnant**

The present study has demonstrated that majority of the respondents were influenced by someone to become pregnant. Figure 4.6 shows that majority of the respondents wanted to have a child while a few accidentally conceived whereas some were forced by their husbands/boyfriends to become pregnant. Women who wanted pregnancy were more likely to attend adequate antenatal care visits compared to those with unwanted pregnancy.

#### **Initiation of antenatal care services**

The study indicated the results of time at initiation of antenatal care services. Figure 4.7 shows that majority of the respondents reported starting antenatal care visits at 4 and 6 months (13-24 weeks), followed by initiation of antenatal care visits from 0-3 months (0-

12 weeks) of pregnancy. Few initiation of antenatal care visits were from 7-9 months (25-36 weeks) and 1% did not know. The specific reasons for pregnant women to start antenatal care at specific periods were as follows: 30% indicated that it would give an opportunity for antenatal care provider to monitor development, growth of the baby and health of the mother. Almost quarter (26%) indicated that they wanted to know their HIV status, 25% wanted detection of their pregnancy problems/complications to be done early, 5% wanted to be given health education and advice about pregnancy and 14% did not give any specific reasons why they started antenatal care at that period.

### **Satisfaction with antenatal care services**

Figure 4.8 shows that almost all respondents were satisfied with antenatal care services offered at antenatal care clinics while 5% were not satisfied with services offered. Some of the women may be satisfied with the services offered but were having other barriers such as antenatal care access or service fees.

### **Accompaniment to antenatal care clinic**

The study results in Table 4.8 shows that 79% of the respondents were not accompanied by their spouses to the antenatal care clinics, while few (21%), were accompanied by their spouses. Those who were accompanied by their spouses indicated benefits such as receiving support and encouragement from their spouses to attend antenatal care, attending health education sessions on pregnancy together and reminding pregnant women on what not to do while they were pregnant. In addition, they would know their HIV status and other sexual transmitted infections together, if results were positive, they would be treated together at the same time. Accompaniment to antenatal care clinic by spouse would influence and encourage the pregnant woman to attend adequate antenatal care visits.

### **Knowledge of recommended number of visits**

Respondents demonstrated higher knowledge on recommended number of visits to be made by a woman when there was no problem. In Figure 4.9, over two thirds of participants indicated that four antenatal care visits should be made when a woman was generally healthy. These results demonstrate that general knowledge among pregnant

participating mothers on antenatal care services was quite high. However, knowledge was not translated into utilisation as only a small proportion of respondents utilised antenatal care services while Ministry of Health and Social services was expecting 100% attendants of antenatal care services.

### **Previous obstetric problems**

The majority (97%) of respondents were not having any obstetric problems with previous pregnancies, which would influence pregnant women to attend antenatal care services as indicated on Table 4.10. A total of 3% respondents were having obstetric problems during previous pregnancies, which influenced them to attend antenatal care services.

### **Knowledge of the benefits of utilising antenatal care services**

Results of the study have also demonstrated that respondents had adequate knowledge on the benefits of utilising antenatal care services. One of the most prominent benefits cited by participating mothers was that attending antenatal care assisted in establishing good rapport between pregnant mother and antenatal care provider. Other benefits were shown in Table 4.11. Adequate knowledge on antenatal care services would contribute to reduction in maternal mortality rate, as suggested by WHO (2014) and risk conditions or pregnancy complications could be detected early. The study further established that respondents were aware that individualised health education amongst the service users assisted in transferring of knowledge from service providers to pregnant women. Another benefit was for the pregnant woman to receive preventive interventions such as tetanus toxoid vaccine, iron supplementation and intermittent treated nets.

#### **5.3.3 Knowledge on antenatal care services by participating mothers**

The study has demonstrated that participating women had varied sources of knowledge on antenatal care services. Figure 4.11 shows that relatives were the most popular source of information followed by health care workers. Few of the participating mothers had indicated that they get information from the radio and teachers.

The present study has demonstrated that majority of the participating women have knowledge on the importance of antenatal care services, almost all respondents indicated that they knew the existence and importance of antenatal care services. In the present study, a very small proportion of respondents had indicated that they used antenatal care service as recommended by National Policy of MoHSS and WHO protocols.

Sources of information that made women to start utilising antenatal care services for the first time was that it was time to start antenatal care services followed by respondents been told by others such as friends, relatives or neighbours while some respondents went to antenatal clinics due to sickness and 1% did not attend antenatal care clinic.

### **Distance to the health facility**

The study further explored barriers to utilisation of antenatal care services among pregnant women in Omaheke Region. Most of the respondents indicated that some barriers played a greater role in low utilisation of antenatal care services. Table 4.15 shows that 44% respondents were having a barrier of transport money to access antenatal care clinics. Distance to the health facility determined both probability and frequency of attending antenatal care clinics. Longer distance to the antenatal care clinic was indicated as highly associated with other studies (Andrew et al 2014:5).

### **Desirability by respondents to use antenatal services**

Other respondents (5%) indicated that the desirability of respondents to utilise antenatal care services was one of the barriers. No barrier of perception of being a low risk by a pregnant woman was indicated.

### **Limited transport**

The study also demonstrated that 5% respondents had a barrier of limited transportation options.

### **Good health worker attitude at the facility**

Figure 4.13 shows that most of respondents liked to visit the health facility for antenatal care services because of the good health worker attitude followed by short waiting hours and availability of staff; few liked the male involvement initiative and the flexibility of the clinic schedule at the facility.

### **Payment of antenatal care services**

The present study demonstrated that 88% respondents did not pay for service fees in order to start antenatal care clinic and the remaining 12% paid service fees in order to start antenatal care clinics.

### **Traditional beliefs**

This study shows that almost all (96%) of the respondents had no barriers or pregnancy related traditional beliefs that prevented them from starting antenatal care in the first trimester. Few (4%) indicated pregnancy related traditional beliefs such as if a pregnant woman was not travelling by car, it may lead to abortion, or no moving around otherwise funny things will affect the unborn baby, and not to load heavy objects to avoid abortion.

## **5.4 CONCLUSIONS**

The study has shown that almost all pregnant women attended antenatal care services at some point during their previous, current and first pregnancies. Majority of the pregnant women did not ask permission from anybody to attend antenatal care clinics. This study has found that some pregnant women are forced by their husbands/boyfriends to become pregnant and accidentally conceive without their wishes.

This study has also shown that in Omaheke Region, majority of the respondents start antenatal care visits at 4 and 6 months (13-14 weeks) of pregnancy. Even though there is a high number of women attending ANC services during pregnancy, many women still do not follow the recommendation of four visits or more. The study has also shown that almost all pregnant women in Omaheke Region have at least some knowledge of



antenatal care services. Furthermore, the study has found that the major sources of antenatal care information for pregnant women in Omaheke Region are relatives, health care workers, radio and teachers. Thus, this study demonstrates that knowledge of antenatal care in general and its benefits is quite high among pregnant women in Omaheke Region. Transport money, service fees, long distances to health facilities, desirability, waiting to get permission to start antenatal care clinics and limited transportation options also contributed to low utilisation of antenatal care services among pregnant women in Omaheke Region.

## **5.5 RECOMMENDATIONS**

Based on the study, the following were recommendations to the partners working to improve utilisation of antenatal care services in Omaheke Region.

### **Recommendations to the Omaheke Regional Health Directorate team**

#### ***Short-term***

- Provide in-service training for staff working in safe motherhood initiative, newborn care and prevention of mother to child transmission (PMTCT) division.
- Circulate guidelines and orient staff on antenatal care services.
- Ensure continuum of care by supporting supplies, equipment, drugs and transport. Ordinary bicycles or ambulances that can deliver services to remote areas, or far to reach areas can make a difference.

#### ***Long-term***

- Train and deploy skilled personnel to peripheral health centres.
- Continue implementing policy on rural incentives to motivate trained staff to work in remote areas.
- Build more clinics and health centres as a way of taking antenatal care services closer to the communities.
- Professional nurses and midwives should run the clinics or health centres in order to attract service users.

## **Recommendations for Gobabis District Coordinating Health Committee**

### ***Short-term***

- Create community health awareness on antenatal care services.
- Train more community health workers and mentor them through regular supportive visits and provision of appropriate IEC materials.
- Design programmes to involve men, traditional birth attendants and traditional leaders in safe motherhood initiatives.
- Nurses and midwives should be trained to be sensitive to women`s socio-economic situations, their culture and traditional beliefs and improve their communication skills.
- Make available a policy that exempts pregnant women from paying antenatal care service fees and it should be displayed at all antenatal care clinics,
- Communities should be informed of antenatal care services through the media such as radios, televisions and local newspapers.

### ***Long-term***

- Omaheke Regional Health Directorate should provide more staff and transport facilities such as ambulances and bicycles to enable clinics/health centres staff to meet regular schedules.

## **Recommendations for antenatal care service providers including community health workers**

- Break cultural and traditional barriers by identifying conflicting areas on antenatal care services and adapt a listening attitude that accommodates a dialogue and incorporation of none harmful practices.
- Continue health education on risks associated with pregnancy, danger signs, family planning and women`s rights. Such information may empower women and thus enabling them to make informed decisions regarding their own health and antenatal care services.
- Communities should be informed that regardless of age of the women and parity, all pregnant women must be supported to utilise antenatal care services.

- Increase primary health care outreach service points especially in remote and hard to reach areas in order to reach all pregnant women for antenatal care services.
- General awareness in communities should be raised on the importance, number and timing of antenatal care visits particularly among pregnant women and their husbands/boyfriends.

## **5.6 CONTRIBUTIONS OF THE STUDY**

By focusing on barriers to utilisation of antenatal care services among pregnant women in Omaheke Region, this study has contributed data that provides more understanding of the barriers that prevent pregnant women from utilising antenatal care services in the Region.

This study should also contribute to the increased utilisation of antenatal care services among pregnant women. The study could also contribute to the reduction of maternal and neonatal deaths in Omaheke Region. Finally, this study has contributed to the recommendations that could be implemented to promote and improve utilisation of antenatal care services.

## **5.7 LIMITATIONS OF THE STUDY**

- The target population was limited to all women of child-bearing age between (18-49 years old) who visited Gobabis District Hospital in Omaheke Region for deliveries (full-term) or were kept for postnatal care purposes.
- The area in which the questionnaires were completed was limited to Gobabis District Hospital and the numbers of qualified respondents were limited to 110 respondents.
- Its cross-sectional design and consecutive sampling at Gobabis District Hospital limited the study, and hence it may be difficult to generalise the findings to other women at other hospitals in Namibia.

## **5.8 CONCLUDING REMARKS**

The purpose of the study was to determine the barriers to utilisation of antenatal care services among pregnant women in Omaheke Region - Namibia. The objectives were to explore and describe the barriers to utilisation of antenatal care services and suggest recommendations for improving utilisation of antenatal care services among pregnant women in Omaheke Region.

Antenatal care service is the most important service which needs to be managed properly and all pregnant women are required to be holistically examined in order to detect all the problems as early as possible. The Government of Namibia adopted the recommendation of WHO of at least four comprehensive antenatal care visits for a woman without complications.

This study found out that the barriers to utilisation of antenatal care services among pregnant women in Omaheke Regions are: age, marital status, parity, level of education, poor economic status, rural-urban residence, waiting to obtain permission to go to antenatal clinic, desirability, long distance and cost. Recommendations were suggested to various stakeholders/partners responsible for antenatal care services for improving utilisation of antenatal care services.

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## **ANNEXURES**

## ANNEXURE A

### Ethical Clearance: Research and Ethics Committee, Department of Health Studies, Unisa



**RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES**  
**REC-012714-039 (NHERC)**

1 March 2017

Dear Mr N Iiyambo

**Decision: Ethics Approval**

**HS HDC/643/2017**

Mr N Iiyambo

Student: 5368-510-5

Supervisor: Dr TG Lumadi

Qualification: D Litt et Phil

Joint Supervisor: -

**Name:** Mr N Iiyambo

**Proposal:** Barriers to utilisation of antenatal care services among pregnant women in Omaheke Region-Namibia.

**Qualification:** MPCHS94

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted for the duration of the research period as indicated in your application.

*The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 1 March 2017.*

*The proposed research may now commence with the proviso that:*

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

University of South Africa  
Preller Street, Muckleneuk Ridge, City of Tshwane  
PO Box 392 UNISA 0003 South Africa  
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150  
[www.unisa.ac.za](http://www.unisa.ac.za)

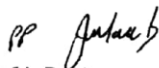
3) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.

4) [Stipulate any reporting requirements if applicable].


**Note:**

The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

  
Prof L Roets  
CHAIRPERSON  
[roetsl@unisa.ac.za](mailto:roetsl@unisa.ac.za)

  
Prof MM Moleki  
ACADEMIC CHAIRPERSON  
[molekmm@unisa.ac.za](mailto:molekmm@unisa.ac.za)

 Approval template 2014

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## **ANNEXURE B**

### **Letter seeking consent from Ministry of Health and Social Services, Namibia**

**From: Mr Norbert liyambo**

**PO Box 1035**

**Gobabis**

**08 November 2016**

**To: The Permanent Secretary**

**Ministry of Health and Social Services**

**Private Bag 13198**

**Windhoek**

Dear Dr A Mwoombola

**Subject: Request for permission to undertake a research study**

I am **Mr Norbert liyambo**, a Senior Registered nurse at Omaheke Health Directorate, Ministry of Health and Social Services. I am hereby requesting permission to undertake a research study in Gobabis District - Omaheke Region. I am currently registered with the University of South Africa as a Master's in Public Health (MPH - Health Studies) student and undertaking a research study is mandatory in order to complete this Master's Degree.

The title of my research topic is: **Barriers to utilisation of antenatal care services among pregnant women in Omaheke Region**. I plan to interview postnatal mothers in the Maternity ward - Gobabis District Hospital because of their experiences with the research topic. The overall process will be overseen by my supervisor Mrs TG Lumadi of the University of South Africa.

I hereby pledge to adhere to all ethical principles and findings of the study will be shared with the Ministry of Health and Social Services.

Your usual support and understanding will be highly appreciated.

Yours faithfully

---

**Mr N liyambo**  
**Research student**  
**University of South Africa**



## **ANNEXURE C**

### **Letter seeking consent from Gobabis District Hospital, Omaheke Region**

**From: Mr Norbert liyambo**

**PO Box 1035**

**Gobabis**

**27 April 2017**

**To: The Senior Medical Officer**

**Gobabis District Hospital**

**Private Bag 2099**

**Gobabis**

Dear Doctor

**Subject: Application for permission to conduct a study in Gobabis District Hospital**

I hereby apply to be given a permission to undertake a research study in Gobabis District Hospital - Omaheke Region. I am currently registered with University of South Africa as a Master's in Public Health (MPH- Health Studies) student and undertaking a research study is mandatory in order to complete this Master's Degree.

The title of my research topic is: **Barriers to utilisation of antenatal care services among pregnant women in Omaheke Region**. I plan to interview postnatal mothers in the Maternity ward - Gobabis District Hospital because of their experiences with the research topic. The overall process will be overseen by my supervisor Mrs TG Lumadi of the University of South Africa.

I hereby pledge to adhere to all ethical principles and the findings of the study will be shared with Hospital management.

I will be looking forward to hearing from you soon.

Yours faithfully

---

**Mr N liyambo**

**Research student**

**University of South Africa**

## ANNEXURE D

### Letter of approval: Ministry of Health and Social Services



#### REPUBLIC OF NAMIBIA

##### *Ministry of Health and Social Services*

Private Bag 13198  
Windhoek  
Namibia

Ministerial Building  
Harvey Street  
Windhoek

Tel: 061 – 203 2562  
Fax: 061 – 222558  
E-mail: [hnangombe@gmail.com](mailto:hnangombe@gmail.com)

#### OFFICE OF THE PERMANENT SECRETARY

**Ref:** 17/3/3

**Enquiries:** Ms. H. Nangombe

**Date:** 05 April 2017

**Mr. Norbert Iiyambo**  
**PO Box 1035**  
**Gobabis**  
**Namibia**

Dear Mr. Iiyambo

**Re: Barriers to utilisation of antenatal care services among pregnant women in Omaheke Region-Namibia**

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
  - 3.1 The data to be collected must only be used for academic purpose;
  - 3.2 No other data should be collected other than the data stated in the proposal;
  - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

- 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
- 3.5 Preliminary findings to be submitted upon completion of the study;
- 3.6 Final report to be submitted upon completion of the study;
- 3.7 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,



**Andreas Mwoombola (Dr)**  
**Permanent Secretary**



*"Health for All"*

## ANNEXURE E

### Letter of approval: Gobabis District Hospital



**MINISTRY OF HEALTH AND SOCIAL SERVICES  
GOBABIS DISTRICT HOSPITAL**

Gobabis State Hospital  
Private Bag 2099  
Gobabis

Dr. Mbuende Street  
Gobabis

Tel: 062566200  
Fax: 062 56 2940

*Enquiry: Dr. L. Kabongo*

Date: 01 June 2017

**OFFICE OF THE SENIOR MEDICAL OFFICER**

To: Mr. N. Iiyambo  
Control Registered Nurse  
Ministry of Health and Social Services  
Omaheke Region

Dear Mr Iiyambo,

**RE: APPLICATION TO CONDUCT A STUDY AT GOBABIS DISTRICT HOSPITAL**

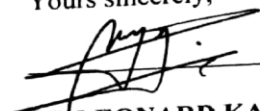
The above bears reference.

Your application to conduct a study at Gobabis Hospital Maternity ward was received. I hereby inform you that the Hospital Management has no objection and your project is welcome.

Please adhere to the ethical considerations as stipulated in the approval letter from the Permanent Secretary.

Should you need further help, do not hesitate to contact this office.

Yours sincerely,

  
**DR. LEONARD KABONGO**  
SENIOR MEDICAL OFFICER



## ANNEXURE F

### Data collection instruments

**Title: Barriers to utilisation of antenatal care services among pregnant women in Omaheke Region - Namibia**

Questionnaire No. : .....

Date:.....

Village:.....

Name of interviewer:.....

Name of health facility.....

### INSTRUCTIONS

- (a) Explain the purpose of the interview to the mother.
- (b) Ask for consent before proceeding with the interview.
- (c) Make sure all questions are answered.
- (d) Tick as appropriate.

### SECTION A: RESPONDENT'S PERSONAL CHARACTERISTICS

1. How old are you?

- (a) 18-21 ☐
- (b) 22-25 ☐
- (c) 26-29 ☐
- (d) 30-33 ☐
- (e) 34-37 ☐
- (f) 38-41 ☐
- (g) 42-49 ☐

2. What is your marital status?

- (a) Married ☐
- (b) Single ☐
- (c) Divorced ☐
- (d) Widowed ☐
- (e) Separated ☐

3. Where are you residing?

Urban or rural area

---

4. What is your tribe or ethnic group?

- (a) Herero ☐
- (b) Wambo ☐
- (c) San ☐
- (d) Nama ☐
- (e) Damara ☐
- (f) Coloured ☐
- (G) Kavango ☐
- (h) Others (Specify).....

5. What is your religion?

- (a) Catholic ☐
- (b) Lutheran ☐
- (c) Anglican ☐
- (d) No religion ☐
- (d) Others (Specify).....

6. Have you ever attended school?

- (a) Yes ☐
- (b) No ☐

7. If yes, what is your highest level of education?

- (a) Junior primary ☐
- (b) Senior Primary ☐
- (c) Secondary ☐
- (d) Tertiary ☐
- (e) Not attended school ☐

8. What do you do for a living?

- (a) Unemployed ☐
- (b) Self-employed ☐
- (c) Part-time job ☐
- (d) Fully Employed ☐
- (e) Farming ☐
- (f) At school ☐

9. What does your husband/boyfriend/parent do for a living?

- (a) Unemployed ☐
- (b) Self-employed ☐
- (c) Part-time job ☐
- (d) Fully employed ☐
- (e) Farming ☐
- (f) Schooling ☐

10. How many deliveries have you ever had?

- (a) None ☐
- (b) One ☐
- (c) Two ☐
- (d) Three ☐
- (e) Four ☐
- (f) More than four ☐

11. How many children are alive?

- (a) None ☐
- (b) One ☐
- (c) Two ☐
- (d) Three ☐
- (e) Four ☐
- (f) More than four ☐



## SECTION B: QUESTIONS ABOUT UTILISATION OF ANTENATAL CARE SERVICES

12. With regard to your previous pregnancy, did you attend antenatal care clinics?

- (a) Yes ☐
- (b) No ☐
- (c) Other - first pregnancy ☐

13. Before you started antenatal care, was it necessary for you to get permission from anyone to attend the antenatal care clinics?

- (a) Yes ☐
- (b) No ☐

14. From whom did you ask for permission to attend antenatal care clinics?

- (a) Husband ☐
- (b) Uncle ☐
- (c) Mother ☐
- (d) Mother In-law ☐
- (e) Other (Specify).....

15. Does your spouse accompany you to antenatal clinics?

- (a) Yes ☐
- (b) No ☐

If yes, what benefits does this have on your reproductive health?

.....

.....

.....

.....

.....

16. What influenced you to be pregnant?

- (a) Wanted to have a child ☐
- (b) Husband forced me ☐
- (c) It was accidentally conceived ☐
- (d) Grandmother wanted many grandchildren ☐

17. At which month of the pregnancy did you start antenatal care?

- (a) 0 – 3 months (0-12 Weeks) ☐
- (b) 4 – 6 months (13-24 Weeks) ☐
- (c) 7 – 9 months (25-36weeks) ☐
- (d) Don't Know ☐

18. Do you remember having any obstetric problems with previous pregnancies?

- (a) Yes ☐
- (b) No ☐

If yes could this have an influence on antenatal care visits?

- (a) Yes ☐
- (b) No ☐

19. Do you have any specific reasons why you started antenatal care at that period?

.....

.....

.....

.....

.....

20. Do you have your antenatal care card for the previous pregnancy?

- (a) Yes ☐
- (b) No ☐

21. How many antenatal care visits is a pregnant woman supposed to make during the whole pregnancy period when there is no problem? Enter Number\_\_\_\_\_

22. Were you satisfied with the services offered at this facility regarding antenatal care?

- (a) Yes ☐
- (b) No ☐

23. What are the benefits of antenatal care? For benefits not mentioned probe further

	Benefit	Strongly Agree	Agree	Not Agree	Not sure
A	Establishing rapport between pregnant mother and antenatal care provider				
B	For early detection of risk conditions associated with pregnancy				
C	Assist the provider to give individualised health education on importance of antenatal care				
D	For pregnant women to receive preventive interventions such as TTV immunisations, Iron and Vitamin A supplementation, SP,ITNs, hookworm treatment, Knowledge about focused antenatal care				

### SECTION C: KNOWLEDGE ABOUT ANTENATAL CARE SERVICES

24. Where did you receive information about importance of utilising focused antenatal care?

- (a) Health worker ☐
- (b) Radio ☐
- (c) Traditional Birth Attendants ☐
- (d) Relatives ☐
- (e) Others (Specify).....

25. What made you start utilising antenatal care services for the first time?

- (a) It is time to start antenatal ☐
- (b) Sickness ☐
- (c) Told by others (Friends/relatives/neighbours) ☐
- (d) Previous pregnancy complications ☐
- (e) Previous foetal loss ☐

26. When you wanted to start focused antenatal care, was each of the following a problem or not?

Parameter		A problem	Not a problem
A	Transport money		
B	Long distance		
C	Desirability		
D	Perception of being a low risk		
E	Waiting to get permission to start focused antenatal care clinics		
F	Concern of unavailability of a midwife		
G	Limited transportation options		

27. What would you like most about antenatal care services at this facility?

- (a) Good health worker attitude ☐
- (b) Short waiting hours ☐
- (c) Availability of staff ☐
- (d) Flexibility of clinic schedules ☐
- (e) Male involvement initiative ☐

28. Do you have to pay in order to start antenatal care clinics?

- (a) No ☐
- (b) Yes ☐

How much Namibian Dollars N\$.....

29. How affordable is this amount to you?

- (a) Cheap ☐
- (b) Fair ☐
- (c) Expensive ☐

30. Are there any barriers or pregnancy related traditional beliefs that prevent pregnant women from starting antenatal care in the first trimester?

- (a) Yes ☐
- (b) No ☐

If yes, Explain those barriers or pregnancy related traditional beliefs.

.....  
.....  
.....  
...

***Thank you very much for taking part in this interview***

## **ANNEXURE G**

### **Informed consent form**

I,----- (name of participant) states that I understand of being asked to participate in a research study at Gobabis District Hospital which is having the aim to explore, describe and analyse barriers to utilization of antenatal care services among pregnant women in Omaheke Region.

I understand that there will be no procedures to be performed on me and no risk of harm involved in the study. I understand that I will not be compensated by providing information through interviews. My participation in this study will enable the researcher to get to know the barriers to utilisation of antenatal care services among pregnant women in Omaheke Region.

I realise that my participation in this study is entirely voluntary, and I may withdraw from the study at any time I wish. If I decide to discontinue my participation in this study, I will continue to be treated in the usual and customary fashion at Gobabis District Hospital or in any health facility in Omaheke Region.

I understand that all study data will be kept confidential, this information may be given to the Ministry of Health and Social Services for interventions.

If I agree to participate in the study, I understand I will be interviewed for approximately 30 minutes on my experience as a pregnant woman about antenatal care services. The questionnaire will be face-to face interviews.

If I need to, I can contact **Mr Norbert liyambo**, a research student at University of South Africa (UNISA), anytime during the study.

The study has been explained to me. I have read and understand this consent form, all of my questions have been answered, and I agree to participate. I understand that I will be given a copy of this signed consent form.

---

Signature of participant

---

Date

---

Signature of witness

---

Date

---

Signature of research student

---

Date

## ANNEXURE H

### Letter from the language editor

163 Highveld  
Kragbron  
Sasolburg  
1947

16 December 2017

#### TO WHOM IT MAY CONCERN

I hereby certify that I have edited Norbert Iiyambo's Master's dissertation, **Barriers to utilisation of antenatal care services among pregnant women in Omaheke Region**, for language and content.

B.K. Dhliwayo  
Cell/Mobile: 084-778-4401  
Email: blessingchemware@yahoo.com